



European Rural Development Network



XXII

European Rural Development Network Conference

**“Resilient rural areas and sustainable food systems:
governance, policy frameworks
and structural challenges”**



Mitrovica 2026

European Rural Development Network

Book of abstracts, 2026

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European Rural Development Network

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Welcome letters



Welcome Address

to the Participants and Guests of the XXII Conference of the European Rural Development Network

Dear Participants and Guests of the XXII Conference of the European Rural Development Network,
“Resilient rural areas and sustainable food systems: governance, policy frameworks and structural challenges”

It is a distinct pleasure and honour to welcome you, on behalf of the Public International Business College Mitrovica, to the XXII Conference of the European Rural Development Network. Hosting this edition in Mitrovica marks a significant moment for our institution and for the academic community of the Republic of Kosovo, which for the first time opens its doors to a network of such breadth and international scientific standing.

The resilience of rural areas in the face of contemporary challenges – climate change, market volatility, demographic pressures and geopolitical uncertainty – calls for an integrated approach, one that views the food system not merely as a chain of production and distribution, but as a complex network of interconnected actors, policies and institutions. The theme of this edition, centred on governance, policy frameworks and structural challenges, invites us to reflect on how institutional decision-making can strengthen the resilience of rural communities while safeguarding food security and environmental balance.

The ultimate goal of this approach remains to ensure food and nutritional security, reduce rural disparities and guarantee the sustainability of resources, in line with the requirements of economic, social and environmental development. These issues are of particular relevance to our region, where rural areas face long-standing structural challenges inherited from the transition period, alongside new opportunities linked to European integration.

The study of rural development and food systems represents a growing area of research interest for the Public International Business College Mitrovica, an institution engaged in regional and international academic cooperation and committed to advancing scientific research oriented towards the sustainable economic and social development of Kosovo and the wider region.

Addressing these subjects at the XXII Conference of the European Rural Development Network therefore provides a valuable platform for the exchange of experience, the comparison of policies, and the building of bridges of cooperation among researchers, institutions and policymakers from across Europe.

I wish all participants a most fruitful scientific debate, and the development of new scientific collaborations and friendships. Welcome to Mitrovica!


 Rector,
Prof. dr. Mihone Kerolli Mustafa
 Public International Business College Mitrovica (IBCM)



European Rural Development Network

Warsaw, 1st September 2026

This year our international scientific conference is titled "Resilient rural areas and sustainable food systems: governance, policy frameworks and structural challenges". The topic was chosen based on the key issues being discussed in relation to the research areas in focus of the members and friends of our network.

Climate and geo-political events increasingly vividly show the importance of raising the resilience of rural communities and need for supporting food system transition towards sustainability in all its dimensions. Moreover, the debate on the future of support for rural development and agriculture within the European Union is speeding up with preparedness and strategic autonomy taking into account such issues as food security, protein production and access to fertilizers, while in case of rural areas focusing on the right to stay and local infrastructure.

We consider it a great honour and proof of trust that the Public International Business College Mitrovica, Republic of Kosovo decided to co-organize this year's conference with us. The co-operation in organizing an international conference is one of the elements of the ERDN cooperation activities with the network which supports strengthening and increasing the ERDN community that results in mutual benefits not limited to professional contacts and knowledge exchange.

We are sure that this year's conference will be a good opportunity for all its participants not only to present their research findings and engage in interesting debates inspired by the presented issues but that it will also give an opportunity to build and strengthen research collaborations and friendships. We also hope that with this year's conference will serve as an invitation for all its participants to take part in the next year's conference which will be accompanied by the celebration of 25th anniversary of ERDN's foundation.

Wishing you a successful conference!

Dr hab. Paweł Chmieleński
Associate professor

President of the Board

Dr Zbigniew Floriańczyk
Assistant professor

Vice-president of the Board

Dr hab. Barbara Wieliczko
Associate professor

Vice-president of the Board

European Rural Development Network



Public International Business College Mitrovica (IBCM)

Institutional Profile — Prepared for the ERDN 2026 Book of Abstracts

Institutional Overview

The Public International Business College Mitrovica (IBCM) is a pioneering higher education institution located in Mitrovica, Republic of Kosovo, with modern campuses operating in both the southern and northern parts of the city. IBCM is recognised as Kosovo's first public college, a status formally granted through the Decision of the Assembly of the Republic of Kosovo No. 08-V-578 of 10 July 2023, which ratified the earlier Government Decision No. 21/136 of 22 March 2023. As a public institution of higher education, IBCM operates under the umbrella of the Ministry of Education and Science (MES) of the Republic of Kosovo.

IBCM traces its origins to 2010, when the College first opened its doors as an internationally supported, not-for-profit educational foundation, established with the backing of the Government of Kosovo and a group of international donors, including the Swedish International Development Cooperation Agency, the Danish Ministry of Foreign Affairs, the European Commission, and the Dutch NGO SPARK, which served as founding and interim manager until 2018. Between 2018 and 2023, the institution operated with the continued support of the European Union Office in Kosovo, during which time it consolidated its academic offer, expanded its student base, and strengthened its institutional and financial sustainability, culminating in its 2023 transformation into a public college.

Role and Mission

IBCM's institutional mission is closely tied to the historical and social context of Mitrovica, a city that has long stood at the centre of inter-ethnic relations in Kosovo. From its founding, the College was conceived as a cross-community institution, designed to bring together students from the Kosovo Albanian, Kosovo Serb, and other communities of Kosovo within a shared academic environment, thereby contributing to reconciliation, social cohesion, and long-term stability in the region, while simultaneously supporting Kosovo's broader path toward European Union integration.

IBCM's stated mission is to deliver academic excellence through a "theory to practice" educational model, equipping students with the knowledge, competencies, and practical skills demanded by local and international labour markets. Its vision is to remain a leading higher education institution in Kosovo, providing accessible, high-quality, and internationally recognised education, and promoting socio-economic integration and excellence within a diverse, multi-ethnic setting. These commitments are reflected in the institution's core values of academic excellence, international mobility and experience, scientific and professional integrity, cooperation with enterprises, career development support, and the promotion of diversity, equality, and inclusivity.



Academic Offer and Areas of Expertise

IBCM combines a European-style academic model with internationally accredited degree programmes, delivered in English, in partnership with accredited higher education institutions in Italy, Germany, Lithuania and Denmark. The College's academic and research activity is concentrated in the fields of business management and entrepreneurship, public administration, environmental and agricultural management, applied information technology, psychology, and sustainability. In addition to its regular Bachelor's and Master's programmes, IBCM offers short, demand-driven courses, including e-learning formats, developed specifically to respond to labour-market needs that are frequently underserved among non-majority communities in northern Kosovo, thereby extending flexible and inclusive lifelong-learning opportunities across the region.

Relevance to Rural and Regional Development

Through its academic focus on environmental and agricultural management, applied sustainability, and regional public administration, IBCM directly engages with themes central to rural and regional development in the Western Balkans. The College's practice-oriented "theory to practice" approach connects research and teaching with the needs of local enterprises and communities, supporting knowledge exchange between researchers, students, and regional economic actors. This orientation, combined with IBCM's cross-border partnerships in agriculture, environment, and heritage-related cooperation projects, positions the institution as a relevant regional partner for networks and initiatives concerned with sustainable rural development, cross-community cooperation, and EU-oriented regional integration in Kosovo and the wider Western Balkans.

Institutional Impact and Outlook

IBCM reports that more than 80% of its graduates secure employment within six months of completing their studies, with numerous alumni, including graduates from non-majority communities, going on to occupy senior positions within Kosovo's public administration. As Kosovo's first public college, IBCM continues to build long-term institutional and financial sustainability while maintaining its founding commitment to inclusive, high-quality, and practice-oriented education for all communities in Kosovo. Through its academic programmes, research activity, and international partnerships, IBCM remains actively engaged in regional cooperation, positioning itself as a durable and relevant partner for European and regional development networks, including ERDN, in advancing shared goals of education, sustainable development, and cross-community cooperation in the Western Balkans.

Contact: Str. Bislim Bajgora, 120, 40000 Mitrovica, Kosovo | www.ibcmmitrovica.eu | info@ibcmmitrovica.eu



Republic of Kosovo — Country Information for International Participants

Prepared for International Participants of the ERDN 2026 Conference

Key Facts at a Glance

Official name	Republic of Kosovo
Capital	Pristina
Location	South-Eastern Europe (Western Balkans), landlocked, bordering Albania, Montenegro, North Macedonia and Serbia
Area	Approximately 10,900 km ² (4,200 sq mi)
Population	Approximately 1.6 million (2024 census)
Official language	Albanian (Serbian is also an official language; English is widely spoken, especially among youth)
Currency	Euro (EUR) — Kosovo uses the euro as its de facto currency, although it is not a member of the Eurozone
Time zone	Central European Time (UTC+1), Central European Summer Time (UTC+2) in summer
Religion	Predominantly Muslim, with Catholic and Orthodox Christian minorities; Kosovo is broadly secular and religiously tolerant
Independence	Declared independence from Serbia on 17 February 2008; recognised internationally from more than 130 countries

History

Kosovo's history stretches back to antiquity, with Illyrian, Dardanian, and Roman-era settlements, followed by centuries of Byzantine. From the late 14th century, Kosovo came under Ottoman rule for roughly five centuries, a period that shaped much of its cultural, culinary, and architectural heritage. Following the Balkan Wars and the collapse of Ottoman rule in the early 20th century, Kosovo became part of Yugoslavia.

In the second half of the 20th century, Kosovo held the status of an autonomous province within the former Socialist Federal Republic of Yugoslavia. Rising political tensions during the 1990s culminated in the Kosovo War of 1998–1999, which ended following NATO's intervention and the establishment of a United Nations administration (UNMIK). On 17 February 2008, Kosovo declared independence, becoming, in the words of many observers, one of Europe's youngest states. Independence has since been recognised by over 130 countries, including most EU member states and the United States, although recognition remains partial at the global level.



Culture and Traditions

Kosovo's culture reflects centuries of layered influences Illyrian and Dardanian roots, Byzantine and Ottoman heritage, and, more recently, strong Western and European connections. Hospitality (mikpritja) occupies a central place in Kosovar tradition: guests are customarily welcomed with coffee, sweets (such as lokum) and refreshments, and hospitality codes are historically rooted in the Kanun, a traditional set of customary laws once used to regulate social and family life in the region. Traditional music and dances, such as the vallja, remain an important part of weddings and festive occasions, alongside traditional dress that varies by region.

Family and community ties remain strong throughout Kosovar society, and religious life is generally practised with tolerance and coexistence among the Muslim majority and Catholic and Orthodox Christian communities. Kosovo's cuisine draws on Balkan and Ottoman influences, and is known for grilled meats (such as qebapa and pleskavica), byrek (savoury pastry), fljia (a traditional layered dish), and dairy products, often accompanied by strong Turkish-style coffee and raki (a traditional fruit brandy).

Most Attractive Places to Visit

- Pristina — the capital city, with the National Library, Newborn Monument, Mother Teresa Cathedral, and a lively café culture in the city centre.
- Drenica and the Adem Jashari Memorial Complex (Prekaz, Skenderaj) — the historic Jashari family compound (Kullat e Jasharëve), a nationally protected heritage site and museum commemorating the Jashari family and the historic resistance that marked the beginning of the Kosovo War in March 1998; a place of deep historical and symbolic significance for Kosovo's path to freedom.
- Prizren — widely regarded as Kosovo's most picturesque town, with an Ottoman-era old town, the Prizren Fortress, historic mosques and churches, and the Sharri Mountains as a backdrop.
- Peja (Pejë) and the Rugova Valley — gateway to the Accursed Mountains (Bjeshkët e Nemuna), with hiking, canyons, and the Patriarchate of Peć monastery, a UNESCO World Heritage Site.
- Gjakova — known for its restored Ottoman-era bazaar (Old Çarshia) and traditional crafts.
- Mitrovica — a historically significant, multi-ethnic city in northern Kosovo, home to the Public International Business College Mitrovica (IBCM).
- Gračanica Monastery — a well-preserved medieval Serbian Orthodox monastery and UNESCO World Heritage Site near Pristina.
- Brezovica and the Sharri Mountains National Park — ski resort and hiking destination in southern Kosovo.
- Germia Park — a large recreational forest park on the outskirts of Pristina, popular for walking, cycling, and outdoor leisure.



How to Reach Kosovo

By Air

Most international participants will arrive via Pristina International Airport "Adem Jashari" (PRN), located approximately 15–18 km southwest of Pristina near Lipjan, and served by shuttle buses, taxis, and rental car services. PRN is Kosovo's main international gateway, connecting to numerous European cities through carriers such as Austrian Airlines, Lufthansa, Swiss International Air Lines, Turkish Airlines, Eurowings, easyJet, and Wizz Air, among others. As there are currently no direct long-haul flights to Kosovo, travellers from outside Europe typically connect through major hubs such as Vienna, Istanbul, Zurich, Munich, or Frankfurt.

Alternative Airports: Tirana and Skopje

Participants who cannot find a suitable connection to Pristina may also consider two neighbouring international airports, both well connected to Kosovo by regular road transport:

- Tirana International Airport "Nënë Tereza" (TIA), Albania — located approximately 240 km from Pristina. Regular direct buses run throughout the day between Tirana Airport and Pristina (roughly 15–20 daily departures), with a journey time of approximately 3–3.5 hours along the Tirana–Pristina motorway (the "Patriotic Highway"); private transfers and rental cars are also available at the airport.
- Skopje International Airport (SKP), North Macedonia — located approximately 90–115 km from Pristina, making it often the closest alternative airport. Direct buses connect Skopje Airport (and Skopje city) with Pristina several times a day, with a journey time of approximately 2–3.5 hours via the Hani i Elezit/Bllacë border crossing; driving by car or taxi typically takes around 1.5 hours.

For both alternative airports, participants are advised to book bus tickets in advance where possible, especially during peak travel periods, and to keep in mind border-crossing formalities when travelling by road between Albania, North Macedonia and Kosovo.

By Road

Kosovo is well connected by modern motorways and regional roads to its neighbours. The "Ibrahim Rugova" motorway (often referred to as the "Patriotic Highway") links Pristina with Albania via the Morina/Vermica-Qafa e Prushit border area, with a journey time of around three to four hours between Tirana and Pristina. Regular international bus services also connect Kosovo with North Macedonia (via Hani i Elezit/Bllacë), Montenegro (via Kulla e Kuqe/Cakorr), and other regional destinations. Travellers should note that entry to Serbia is only straightforward if Serbia was the first country of entry into the region, since Serbia does not recognise Kosovo's border crossings as official international entry points.

Local Transport

Within Kosovo, travel between cities is most commonly done by intercity bus or private/rental car, as rail services remain limited. Taxis are widely available, inexpensive, and considered a safe and reliable means of transport in Pristina and other major towns; participants are advised to use licensed, metered taxi companies.



From Pristina to IBCM (Mitrovica)

For participants travelling to the Public International Business College Mitrovica (IBCM), the college is located approximately 40 km north of Pristina, with a driving time of around 40–45 minutes along the Pristina–Mitrovica road (part of the N2/M2 route). The most convenient options are:

- By taxi or private transfer — the fastest and most comfortable option, taking approximately 40–45 minutes directly from Pristina city centre or Pristina International Airport (PRN) to the IBCM campus in Mitrovica; recommended for participants with luggage or tight schedules.
- By rental car — the route follows a well-maintained main road; the journey takes roughly 40–45 minutes under normal traffic conditions.
- By intercity bus — frequent public buses run throughout the day between Pristina's main Bus Station and Mitrovica (journey time approximately 45–60 minutes); from the Mitrovica bus station, the IBCM campus (Str. Bislim Bajgora, 120) is a short taxi ride or walk away.

Participants arriving directly at Pristina International Airport are advised to arrange a taxi or pre-booked transfer to Mitrovica/IBCM, as this avoids an additional transfer through central Pristina and is the most time-efficient option for reaching the conference venue.

Prepared for ERDN 2026 international participants

About the conference



**Public International Business College Mitrovica,
& European Rural Development Network
invite to the**

XXII European Rural Development Network Conference

“Resilient rural areas and sustainable food systems: governance, policy frameworks and structural challenges”

**29 September – 1 October 2026
Mitrovica, Republic of Kosovo**

The aim of the conference is to present current research and to discuss the ways to boost the resilience of rural areas and sustainable food systems, especially in relation to governance, policy frameworks and structural challenges having in focus the next EU multi-annual financial framework, the EU integration process and other developmental challenges at the European and global scales. The exchange of experiences of research teams from various countries, of an interdisciplinary and intergenerational character, is extremely valuable here.

The main sub-topics we propose include:

1. EU integration and rural development in relation to MFF 2028-2034 and candidate countries.
2. Rural Pact development needed to ensure the right to stay and rural generational renewal.
3. Soil literacy for soil health ensuring sustainability of farming and food security.
4. Perspectives of sustainable food system transition in Europe.

As in previous years, we are open to oral presentations and posters presenting other issues related to agriculture and rural development in Europe and other parts of the world.

Scientific Committee of ERDN 2026 Conference

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Conference Programme





European Rural Development Network



Public International Business College Mitrovica, Republic of Kosovo
European Rural Development Network

invites to the

XXII European Rural Development Network Conference

“Resilient rural areas and sustainable food systems: governance, policy frameworks and structural challenges”

29 September – 1 October 2026
Mitrovica, Republic of Kosovo

Programme of the conference

Day 1 of the Conference: – Tuesday, 29 September 2026

Venue: Public International Business College Mitrovica, Str. Bislim Bajgora no. 120, 40000 Mitrovica
Kosovo, Amphitheater

9:00-9:30 Registration to the conference

- 9.30-10.00 Moderator – **Zbigniew Floriańczyk**
Rector of IBCM, **Prof. PhD Mihone Kerolli Mustafa** – Welcoming remarks on behalf of the host institution.
Representatives from Kosovo Government
Representative from EU Mission in Kosovo
Prof. Assoc. PhD Paweł Chmieleński, President of the ERDN, Director of Institute of Rural and Agricultural Development Polish Academy of Sciences, Poland
- 10.00-11.00 Chair: **Mr. Flamur Abazaj**, Public International Business College Mitrovica, Kosovo

EU Integration and Rural Development in Relation to the MFF 2028–2034 and Candidate Countries -The Case of Kosovo

Prof. dr. Ekrem Gjokaj; Public International Business College Mitrovica (IBCM)

An EU Member State in the Process of Systemic Adjustment: Poland's Rural and Agricultural Policy Experience and the Road Ahead

Paweł Chmieleński¹, Barbara Wieliczko¹, Zbigniew Floriańczyk²; ¹ Institute of Rural and Agricultural Development of the Polish Academy of Sciences, IRWiR PAN, Poland; ² Institute of Agricultural and Food Economics National Research Institute, Poland

Policy Integration in EU Governance: Stakeholder Perspectives on National and Regional Partnership Plans in Lithuania

Živilė Gedminaitė-Raudonė, Rita Lankauskienė; Lithuanian Centre for Social Sciences, Institute for Economics and Rural Development

11.00-11.30 Coffee break

11.30-13.00 Chair: **Prof. Assoc. Jelena Stanojevic & PhD Zbigniew Floriańczyk**

Drivers of New Public Management, Collaborative Governance and SDG Implementation in Green Transition: A Conceptual Review

Mihone Kerolli¹, Bedri Peci², Agron Hajdari³; ¹ Public International Business College Mitrovica (IBCM), Faculty of Environment, Technology and IT, Kosovo; ² University of Prishtina (UP), Faculty of Law, Financial Law Department, "Agim Ramadani", Kosovo; ³ Public International Business College Mitrovica (IBCM), Faculty of International Business Management, Kosovo

Designing the National and Regional Partnership Plan in Romania: Institutional Challenges, Stakeholder Perspectives, and the Path Towards an Integrated Vision

Mihai Alexandru Chițea, Monica Mihaela Tudor, Dan Marius Voicilaș, Lucian Luca; Institute of Agricultural Economics – Romanian Academy

Regional bioeconomy hubs as instruments for the Rural Pact: supporting the right to stay and generational renewal in Central European rural areas

Piotr Jurga¹, Stelios Rozakis²; ¹ Institute of Soil Science and Plant Cultivation; ² Technical University of Crete

Romania's Road to an Inclusive National Strategic Plan 2023-27 - Challenges and Returns

Monica Mihaela Tudor, Dan Marius Voicilaș, Lucian Luca, Diana Driga, Cornelia Alboiu, Camelia Gavrilă; Institute of Agricultural Economics – Romanian Academy

Digital Service Ecosystems and Territorial Resilience in Italian Inner Areas: The Role of Collaborative Governance in Rural Development

Ruggiero Sardaro¹, Domenico Parente¹, Antonio Stasi², Piermichele La Sala¹;
¹ University of Foggia, Department of Economics. ² University of Salento,
Department of Law Science, Italy

Governance and Institutional Determinants of Farm Resilience in the Context of Sustainable Rural Development

Hrabrin Bashev¹, Bozhura Fidanska¹, Zornica Stoianova², Minko Georgiev³, Sonia Chehlarova-Simeonova⁴; ¹ Institute of Agricultural Economics, Sofia, Agricultural Academy Bulgaria, ² University of National and World Economy, Bulgaria, ³ Fruit Growing Institute, Plovdiv, Agricultural Academy Bulgaria,
⁴ Institute of Soil Science, Agrotechnologies and Plant Protection „Nicola Pushkarov“, Agricultural Academy Bulgaria

13.00-14.00 Lunch

14.00-17.00 Workshop

Pitch Perfect Championships: Presenting with Rigour, Lightness, and Confidence

Weronika Felcis¹, Jonny Hanson²; ¹ University of Latvia, Latvia, ² Queen's University Belfast, Northern Ireland

Coffee break planned app. in the middle of the workshop

19.00-22.00 Gala dinner **Gresa Bernicë, të Princesha Gresa Restaurant – Bernicë.**
https://maps.app.goo.gl/hTa9iMmLEEt63pt99?utm_source=chatgpt.com

Day 2 of the Conference: – Wednesday, 30 September 2026

9.30-11.30 **Parallel session 1**

Chair: **Prof. Bujar Gallopeni & PhD Monica Tudor**

Universal Design for Rural Renewal: Making Places Livable for All Generations

Monika Belhaj, Živilė Gedminaitė-Raudonė; Lithuanian Centre for Social Sciences, Institute for Economics and Rural Development, Lithuania

Schools as engines for rural development: the School Involvement Priority Access (SIPA)

Alice Galbiati; Department of Architecture and Urban Studies (DASU), Politecnico di Milano

The Economic Cost of Territorial Exclusion in Rural Poland

Marcin Gospodarowicz; SGH Warsaw School of Economics, Institute of Banking, Warsaw, Poland

Between Connectivity and Inclusion: Digital Transformation in Polish Rural Communities and Its Implications for Rural Governance and Policy

Krzysztof Janc; University of Wrocław, Poland

Organizational Challenges and Enablers for Women in Local Leadership in Kosovo: Barriers and Pathways to Empowerment

Arjeta Mehmeti¹, Damjan Maletič²; ¹ Public International Business College Mitrovica (IBCM), Kosovo; ² University of Maribor Faculty of Organizational Sciences, Slovenija

Public transport accessibility and rural left-behindness: case study from Slovakia

Vladimír Székely, Ján Novotný; Institute of Geography, Slovak Academy of Sciences

Digital Transformation and Rural Resilience: Evidence from Rural Enterprises in Jordan

Bashar Younis Alkhawaldeh; Jerash University, Department of Administrative Sciences, Faculty of Business

The Role of Governance and Policy Frameworks in Strengthening Rural Economic Resilience: The Case of Kosovo

Jehona Murati Dugolli, Shaip Gashi; Public International Business College Mitrovica (IBCM)

9.30-11.30

Parallel session 2

Chair: **Prof. Ruzhdi Halili & PhD Živilė Gedminaitė-Raudonė**

The thERBN Digital Platform for Rural Bioeconomy: Insights from Poland

Magdalena Borzęcka¹, Małgorzata Wydra¹, Rafał Pudętko¹, Sławomir Sioma², Katarzyna Gizińska², Paweł Chmieleński², Martyna Prochniak Dominika Jatocha^{3, 1}

Institution: Institute of Soil Science and Plant Cultivation Dept.of Geomatics Czartoryskich 8 Str. 24-100 Pulawy, ² European Rural Development Network, Institute of Rural and Agricultural Development, Polish Academy of Sciences, Poland, ³ Lubelski Ośrodek Doradztwa Rolniczego w Końskowoli, Pożowska 8, 24-130 Końskowola, Poland

Financing Livestock Farms on the Path to EU Integration: Farm-Level Efficiency and Policy Asymmetries in Kosovo and Albania under the EU Multiannual Financial Framework 2028–2034

Fjolla Gashi¹, Albana Jupe¹, Ekrem Gjokaj²; ¹ Agricultural University of Tirana, Department of Finance, Albania; ² Public International Business College Mitrovica, Kosovo

Assessing Agricultural Support Measures through a Regional Development Lens: A Methodological Framework for Resilient Rural Areas

Genovaitė Beniulienė; Lithuanian Centre for Social Sciences, Institute for Economics and Rural Development, Lithuania

Irrigation governance for resilient rural areas and sustainable food systems: an integrated analysis of the Capitanata district

Ruggiero Sardaro, Antonio Urbano, Antonio Dell'Aquila, Piermichele La Sala;
University of Foggia, Italy

Heavy Metal Contamination of Agricultural Soils in the Mitrovica Region and Implications for Agricultural Policy and Farm Structural Transformation in Kosovo

Gresa Ferri, Ornela Mikus, Ekrem Gjokaj; Public International Business College Mitrovica (IBCM), Kosovo

Sustainable Water Resource and Environmental Management in the Western Balkans Using Horizon Scanning and Foresight Approaches

Dea Gaxha, Arbnora Nuhi, Mihone Kerolli, Ekrem Gjokaj; Public International Business College Mitrovica (IBCM), Faculty of Environment, Technology and IT, Kosovo

Understanding Innovation Ecosystems: Concepts, Governance Models, and Regional Realities

Jonas Pupius; Lithuanian Centre for Social Sciences, Institute for Economics and Rural Development

Enforcement and livelihood strategy choices: How rural households respond to anti-drug policy in Afghanistan

Ahmad Shah Shinwari^{1,2}, Thomas Herzfeld^{1,3}; ¹ Department of Agricultural Policy, Leibniz Institute of Agricultural Development in Transition Economies (IAMO), Halle (Saale), Germany; ² Department of Agricultural Economics & Extension, Nangarhar University, Nangarhar, Afghanistan; ³ Martin-Luther-Universität Halle-Wittenberg, Germany

11.30-12.00 Coffee break

12.00-13.00 **Poster session 1**

Chairs: Prof. Besnik Fetahu & Prof. Assoc. PhD Marius Voicilaş

Traditional Institutions and Participatory Rural Governance: Evidence from Castilla y León (Spain) for Sustainable Territorial Development

José Juan Zurro Muñoz; Universidad de Valladolid, Sociology and Social Work department

BIOEASTWIDE as a platform for strengthening bioeconomy R&I cooperation between EU Member States and candidate countries in the context of MFF 2028–2034

Piotr Jurga¹, Stelios Rozakis², Jerzy Kozyra¹, Magdalena Woźniakowska¹, Barbara Wieliczko³, Paweł Chmieliński³; ¹ Institute of Soil Science and Plant Cultivation; ² Technical University of Crete; ³ European Rural Development Network, Institute of Rural and Agricultural Development, Polish Academy of Sciences, Poland

CARBON 4 BIOECONOMY: Linking carbon farming, bio-based value chains and CAP 2028–2034 for resilient rural development in Central Europe

Piotr Jurga¹, Stelios Rozakis², Jerzy Kozyra¹, Magdalena Woźniakowska¹, Darko Fercej, Antoaneta G. Kuhar³; ¹ Institute of Soil Science and Plant Cultivation;
² Technical University of Crete; ³ Agricultural Institute of Slovenia

Plant Growth-Promoting Rhizobacteria (PGPR) as Drivers of Rural Resilience and Sustainable Food Systems

Natalija Atanasova-Pancevska¹, Daniela Todevska², Sofija Kostandinovska¹; ¹ Ss. Cyril and Methodius University in Skopje, Faculty of Natural Sciences and Mathematics – Skopje, Institute of Biology, Department of Microbiology and Microbial Biotechnology, Skopje, Republic of North Macedonia; ² Goce Delchev University, Faculty of Agriculture, Republic of North Macedonia

Towards EDUPACK: A Standardised Framework for Rural Entrepreneurship and Innovation Education

Juliana Carina Bagetti, Fedele Colantuono, Mariantonietta Fiore; Department of Economics, University of Foggia, Italy

Eco-schemes as tools for managing sustainable agriculture

Zofia Koloszko-Chomentowska¹, Leszek Sieczko²; ¹ Białystok University of Technology; ² Warsaw University of Life Sciences, Poland

Beyond Infrastructure: Linking Human Activation and Institutional Opportunity for Rural Regeneration and Food System Resilience

Serge Fortin¹, Ernesto Sirolli²; ¹ Independent Researcher and Author, Menorca, Spain; ² Sirolli Institute, Sacramento, USA

Towards digital food passporting in Europe: Sensor4Food as a model for safer, smarter and more transparent poultry value chains

Piotr Jurga, Magdalena Woźniakowska, David Oliva; Institute of Soil Science and Plant Cultivation, Poland

Technological Innovation and Agriculture: Adoption and Barriers

Agnieszka Kurdyś-Kujawska¹, Piotr Kuszewski², Edyta Cegielska²; ¹ Koszalin University of Technology; ² SGH Warsaw School of Economics, Poland

RURALSTRAT: An R&D Project for Implementing the Smart Village Concept in National and Regional Development Policies in Poland

Joanicjusz Nazarko, Katarzyna Czerewacz-Filipowicz, Marta Matecka-Dobrogowska, Ewa Chodakowska; Białystok University of Technology, Poland
Growing Climate Resilience in Remote rural Areas through Community Empowerment

Aleksandra Pyl, Barbara Wieliczko; European Rural Development Network, Institute of Rural and Agricultural Development, Polish Academy of Sciences

The BbioNets Platform and BBTs Assessment Tool: supporting the resilience of rural areas and sustainable food systems in Europe

Małgorzata Wydra¹, Magdalena Borzęcka¹, Carmen Girón-Domínguez²; ¹ Dept. of Geomatics, Institute of Soil Science and Plant Cultivation – State Research Institute, Poland; ² Circular Bioeconomy Research Group, Munster Technological University, Dromtacker, Ireland

13.00-14.00 Lunch

16.00-18.00 Field trip **ARTI FRUIT L.L.C**

ARTI FRUIT is a Kosovo-based agri-food enterprise established in Prizren owned by Mr. Esat Berisha, a Kosovan entrepreneur who originally migrated to Switzerland before deciding to return and invest in Kosovo. His entrepreneurial journey reflects a strong commitment to reconnecting with his country of origin, creating local economic opportunities, and contributing to the development of Kosovo's agri-food sector. The company is located at Rruga Tranzitit p.n., Prizren, [approximately 3 km / 15 minutes from the city center], easily accessible for international visitors and delegations. ARTI FRUIT specializes in the cultivation, processing, and commercialization of Aronia (*Aronia melanocarpa*), offering a range of natural, health-oriented products, including cold-pressed aronia juice, jam, tea, extracts, and food-industry ingredients. The company cultivates and manages approximately 52 hectares of arable land [8 hectares of aronia orchards]. Through an increasingly integrated value chain, ARTI FRUIT promotes locally sourced production, product traceability, sustainable rural livelihoods, and value addition in agriculture. The company operates in line with BIO Certificate, as quality and safety standards, ensuring compliance with both local and international market requirements. During a visit, guests will have the opportunity to tour the aronia orchards, observe the processing and production line, visit the quality control laboratory, and explore the company's product showroom. With a growing presence in the Kosovo market and initial steps toward international expansion, particularly into Switzerland and EU countries, ARTI FRUIT represents an example of diaspora-led investment, agricultural innovation, and the development of premium, Kosovo-grown products with export potential.

www.aronica.ch

Rruga Tranzitit P.n., 20000 Prizren, Kosovë

18.00-20.00 Visit to historical City of Prizren

Day 3 of the Conference: – Thursday, 1 October 2026

9.30-11.00

Parallel session 3

Chair: **Prof. Labinot Hajdari & Piotr Jurga**

The Impact of High Inflation on Consumer Expenditure Pattern by Income Percentile in Türkiye: Policy Implications for Rural-Urban Migration Dynamics

Gülçin Koç, Ahmet Ali Koç; Akdeniz University, Faculty of Economics and Administrative Sciences, Department of Economics, Antalya/Türkiye

Sustainable Management Practices and Rural Enterprise Performance Evidence from Jordan

Alaa Mohammad Alkhalailah; Jerash University, Department of Administrative Sciences, Faculty of Business

Human Resource Development as Rural Resilience Infrastructure: Retaining Talent and Enabling Sustainable Food-System Transitions in EU Candidate Regions

Valid Apuk; University of Maribor, Faculty of Organizational Sciences; Public International Business College Mitrovica (IBCM)

Nature connection and pro-conservation behaviours among teenagers in Northern Ireland

Jonny Hanson; School of Social Sciences, Education and Social Work, Queen's University Belfast, Northern Ireland, UK

Modelling Evapotranspiration and Irrigation Demand for Crops in Mitrovica

Jelisaveta Marjanovic, Aleksandar Djikic, Afete Musliu; Public International Business College Mitrovica (IBCM), Kosovo

Determination of heavy metals concentration in a poultry eggs, Reka village, Mitrovica, Kosovo

Afete Musliu, Gresa Ferri, Jelisaveta Marjanovic; Public International Business College Mitrovica (IBCM)

9.30-11.00

Parallel session 4

(this session will include online participants – link will be provided in a separate email)

Chair: **Prof. Agron Hajdari & Prof. Assoc. PhD Magdalena Borzęcka**

How participatory is the CAP in Poland? Role of the Polish CSP 2023-2027 Monitoring Committee

Barbara Wieliczko^{1,2}, 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

Challenges in the Implementation of Digital Inclusion Policies in Public Education in Kosovo: A Governance Perspective

Suzana Beqiri Haxhiu¹, Miro Haček²; ¹ Public International Business College Mitrovica (IBCM), Kosovo; ² University of Ljubljana, Faculty of Social Sciences

The external sector of the Republic of Moldova in 2025: Challenges and implications for economic resilience

Tatiana Iatisin; National Institute of Economic Research of the Academy of Economic Studies of Moldova

Organic Wild Plants in Kosovo: Current Situation and Research Gaps

Zana Lika, Christoph Schunko; BOKU University, Austria

Beyond market prices: True Cost Accounting for sustainable food system transformation in the EU candidate countries

Eugenia Lucasenco, Alexandru Ceban; National Institute for Economic Research, Academy of Economic Studies of Moldova

From Positive Attitudes to Participation: Consumer Perspectives on Peri-Urban Food Districts in Italy

Elena Claire Ricci, Sonia Morandi; Università di Verona, Verona, Italy

Bridging Social Economy and Rural Development: Exploring European Policy Frameworks Supporting Social Economy in Rural Areas

Caterina Francesca Ottobrini¹, Jacopo Sforzi¹, Luca Koltai²; ¹ EURICSE, ² HÉTFA

11.00-11.30 Coffee break

11.30-12.30 **Poster session 2**

Chair: **Prof. Vjose Latifi & Lec. Gresa Ferri**

Policy instruments for the protection of agricultural soils

Joanna Ejdys, Joanna Godlewska, Elżbieta Broniewicz, Zofia Koloszko-Chomentowska, Karolina Ogrodnik; Białystok University of Technology, Poland

Granularity as a governance question: evidence from sixteen GRANULAR Practice Abstracts on data, capacity and local ownership in rural Europe

Aleksandra Pawłowska, Paweł Chmieleński, Barbara Wieliczko; European Rural Development Network, Institute of Rural and Agricultural Development, Polish Academy of Sciences

Territorial Inequalities, Rural Resilience and Wellbeing in Peripheral Regions

Patrycjusz Zarębski; Koszalin University of Technology, Poland

Integrating New European Bauhaus Principles into land use debate

Barbara Wieliczko^{1,2}, Paweł Chmieleński^{1,2}, Marcin Żekało¹; ¹ European Rural Development Network, ² Institute of Rural and Agricultural Development, Polish Academy of Sciences

Conditions and directions for the development of unused agricultural land in the context of rural development in Poland

Małgorzata Kozak; Institute of Soil Science and Plant Cultivation, Poland

From topsoil to subsoil literacy: DeepHorizon as a pathway to soil health, sustainable land management and food security

Piotr Jurga, Jacek Niedźwiecki, Guillaume Debaene, Magdalena Woźniakowska; Institute of Soil Science and Plant Cultivation, Poland

From topsoil to subsoil literacy: Transforming food systems through circular bioeconomy: lessons from the Polish Bioeconomy Roadmap co-created by the National Bioeconomy Hub

Piotr Jurga, Jerzy Kozyra, Beata Jurga, Magdalena Woźniakowska; Institute of Soil Science and Plant Cultivation, Poland

Soil literacy for carbon farming: capacity building as a pathway to soil health, sustainable agriculture and food security in Central Europe

Piotr Jurga, Beata Jurga, Jerzy Kozyra, Magdalena Woźniakowska, Robert Borek; Institute of Soil Science and Plant Cultivation, Poland

Monitoring of agricultural biomass resources as a tool to strengthen the resilience of rural areas to energy and food crises in Poland

Magdalena Borzęcka, Rafał Pudętko, Krystian Mocny, Piotr Gorzkowski; Institute of Soil Science and Plant Cultivation, Poland

Living Labs in the Context of Rural Innovation: A Case Study from the Nemesis Project

Katarzyna Gizińska; European Rural Development Network

The bioeconomy: Between regulations and practice - how to better support technologies based on bio-resources

Anna Jędrejek, Magdalena Borzęcka, Małgorzata Wydra, Małgorzata Kozak; Institute of Soil Science and Plant Cultivation, Poland

Soil Orchestras as a Grassroots Model for Soil Literacy: Lessons from Poland and a Call to Establish New Ensembles Across Rural Europe

Aleksandra Rasz; European Rural Development Network, Institute of Rural and Agricultural Development, Polish Academy of Sciences

Soil sensors and artificial intelligence for more precise fertilisation: Can we fertilise more efficiently and with less impact on the environment?

Beata Jurga¹, Fabian Frick², Amer Ait Sldhoum³, Alan O'Riordan⁴, Behlül Can Şengül⁵; ¹ Institute of Soil Science and Plant Cultivation – State Research Institute (IUNG-PIB), Poland; ² Technical University of Munich Agricultural Production and Resource Economics, Germany; ³ Natural Resources Institute, Finland; ⁴ Tyndall National Institute, Ireland; ⁵ MOVE ON Technology Inc., Turkey

12.30-13.00 Closing remarks

13.00-14.00 Lunch

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Alaa Mohammad Alkhalilah

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Sustainable Management Practices and Rural Enterprise Performance Evidence from Jordan

Rural enterprises play a significant role in rural economies, providing jobs, rural income, using local resources and developing rural communities. Meanwhile, these businesses are facing heightened pressures regarding resource limits, environmental pressures, market competition and growing expectations for the adoption of social and environmental responsibility measures. Sustainable management practices can offer a significant managerial solution to these challenges, and enhance the overall performance of rural enterprises. There is, however, little empirical evidence about the impact of sustainable management practices on the performance of rural enterprises, especially in developing-country settings. This study therefore focussed on the effects of sustainable management practices on the performance of rural enterprises in Jordan. A Quantitative cross-sectional research design and primary data collection method was used, using a structured questionnaire, to owners, managers and top decision makers of rural enterprises in Jordan. Three dimensions were explored in an examination of sustainable management practices: sustainable resource management, environmental management practices, and social responsibility practices. The economic, operational and market performances were used to evaluate the performance of rural enterprise. A 5-point Likert scale was used to rate the items of the questionnaire. The collected data was analyzed by using Partial Least Squares Structural Equation Modeling (PLS-SEM) with the software of SmartPLS 4. The measurement model was evaluated based on indicator reliability, internal consistency reliability, convergent validity, and discriminant validity. The structural model was then evaluated to explore and discuss the proposed structure relating the sustainable management practices to the performance of rural enterprises and to examine the explanatory and predictive power of the research model. The results found that sustainable management has positive and significant effect on the performance of the rural enterprises in Jordan. The findings show that good management of available resources, environmental responsibility, social responsibility are associated with improving the economic, operational and market performance of rural enterprises. This research indicates that sustainability is more than just an environmental or social issue, it's a strategic management tool that can help businesses to be efficient, competitive and sustainable in the long run. The research has significant policy and management implications for rural enterprise managers and policy makers. At the management level, rural businesses can use sustainability principles in resource management, business operations, environmental decision-making and working with employees and communities. Policy level, rural development programs can be more supportive of sustainable management practices by delivering training, technical support, resource efficiency and providing the necessary institutional support. The study is part of the literature on rural development by offering proof of its applicability in Jordan and how enterprise level sustainable management practices can contribute in a broader development of rural areas. The findings are especially relevant to the circle of discussions on resilient rural areas, sustainable rural economies, sustainable farming and sustainable food systems. Enhancing the sustainability and quality of rural enterprises can help to support robust rural economies, better rural livelihoods and more sustainable rural development.

Keywords: Sustainable Management Practices; Rural Enterprises; Rural Enterprise Performance; Sustainable Resource Management; Environmental Management; Social Responsibility; Rural Development; Jordan.

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Digital Transformation and Rural Resilience: Evidence from Rural Enterprises in Jordan

Rural enterprises are important to bolster local economic development, create jobs, provide livelihoods and enhance the economic vitality of rural communities. These businesses, however, exist in a market environment beset by uncertainty and constraints on resources, technological shifts, and other economic and structural issues that could impede their ability to adapt and sustain business operations. In this context, digital transformation is becoming an essential managerial skill to enhance the operation of rural enterprises, gain access to information, adapt to new market conditions and reinforce their ability to withstand shocks and stresses. Despite the rising significance of digitalization, there is little empirical research that has focused on the link between digital transformation and rural resilience, especially in a developing-country context. Thus, the present study investigated the effect of digital transformation on the resilience of rural enterprises in Jordan. This study uses quantitative cross-sectional research design, and collects primary data using a structured questionnaire to owners, managers and senior decision makers of rural enterprises in Jordan. Digital transformation was explored in three aspects, namely digital technology adoption, digital process integration and digital data and information management. The resilience of rural enterprises was measured in three areas: adapting, responding to crises and continuity of business. Items of the questionnaire were measured on a 5 point likert scale. Data analysis was performed with Partial Least Squares Structural Equation Modeling (PLS-SEM) software which is SmartPLS 4. Indicator reliability, internal consistency reliability, convergent validity and discriminant validity of the measurement model were evaluated. The structural model was then evaluated to answer the questions of how digital transformation impacts rural enterprise resilience and how well the proposed model explains and predicts that impact. The results showed that digital transformation has positive and significant effects on the resilience of rural businesses in Jordan. The findings suggest that the use of digital technologies, integration of digital processes and effective handling of digital information can enhance the capability of rural enterprises to adapt to changing situations, be resilient to disruptions and continue their operations. The results point to the strategic nature of digital transformation as a tool of management to reinforce the resilience of rural companies and thus in turn the resilience of rural economies. The study is meaningful for the rural development. In the enterprise context, digital transformation ought to be a part of strategic and operational decision making – not just a technology purchase. In terms of policy, increased focus on digital infrastructure, digital skills, access to digital services and tech support for rural businesses is needed. These can help rural businesses overcome structural issues and enhance their ability to support sustainable and resilient rural development. The study adds to the rural development literature in two ways: firstly, it offers empirical evidence from Jordan and secondly, it links the level of digital transformation in the enterprise with the overall concept of resilient rural areas. The results show that enhancing digital skills of rural businesses can boost their adaptive capacity and help to build resilient and sustainable rural economies.

Keywords: Digital Transformation; Rural Resilience; Rural Enterprises; Digital Technology Adoption; Rural Development; Business Continuity; Jordan.

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Human Resource Development as Rural Resilience Infrastructure: Retaining Talent and Enabling Sustainable Food-System Transitions in EU Candidate Regions

Rural resilience is often discussed through infrastructure, finance, agricultural technology and policy reform, while the human capabilities required to implement these interventions receive comparatively limited attention. This paper positions human resource development (HRD) as a form of strategic rural infrastructure and examines how place-sensitive HR practices can strengthen workforce retention, generational renewal and the transition toward sustainable food systems in European Union candidate regions. The central argument is that rural development policies are unlikely to deliver lasting results unless they simultaneously build the competencies, motivation, institutional capacity and career prospects of the people responsible for translating policy into practice.

The paper develops an interdisciplinary conceptual framework through a structured synthesis of literature on strategic HRD, rural workforce development, sustainable food systems, talent retention and territorial governance. The framework connects four mutually reinforcing dimensions: (1) future-oriented skills development for farmers, agri-food employees, extension professionals and rural entrepreneurs; (2) inclusive talent-management practices that create viable career pathways for young people, women and underrepresented groups; (3) inter-organizational learning ecosystems linking higher education institutions, vocational providers, local government, employers and producer organizations; and (4) people-centred governance mechanisms that embed participation, trust and local knowledge in rural policy implementation. Particular attention is paid to EU candidate regions, where rural labour-market constraints, migration, demographic ageing, institutional fragmentation and the demands of European integration intersect.

The analysis shows that HRD can contribute to rural resilience through three pathways. First, it improves adaptive capacity by equipping rural actors to respond to digitalization, climate pressures, changing consumer expectations and regulatory requirements. Second, it supports the right to stay by improving employability, leadership opportunities, job quality and perceptions of a credible future in rural communities. Third, it increases policy implementation capacity by strengthening cooperation, knowledge transfer and accountability across institutions. Based on these pathways, the paper proposes a Rural HRD Resilience Cycle comprising territorial skills diagnosis, co-designed development interventions, workplace application, cross-sector knowledge exchange and long-term evaluation of retention, innovation, inclusion and sustainability outcomes.

The paper contributes to the conference debate by moving human capital from the margins of rural policy to the centre of resilience and sustainable food-system governance. It offers a practical lens for policymakers, higher education institutions, municipalities and rural employers seeking to align EU integration, generational renewal and green transition objectives with coherent workforce-development strategies. The proposed framework also provides a foundation for comparative empirical research across candidate and member states.

Keywords: human resource development; rural resilience; talent retention; generational renewal; sustainable food systems; EU candidate regions; territorial governance.

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Governance and Institutional Determinants of Farm Resilience in the Context of Sustainable Rural Development

The resilience of agricultural holdings has become a strategic prerequisite for sustainable rural development and the transition towards sustainable food systems in Europe. In an environment characterised by climate change, market volatility, institutional uncertainty and resource constraints, farms must continuously adapt while maintaining economic viability and environmental responsibility. Recent research increasingly recognises resilience as a multidimensional concept shaped by governance arrangements, institutional conditions and adaptive capacities rather than by economic performance alone (Meuwissen et al., 2019; Darnhofer, 2014).

This paper presents the conceptual foundations of an ongoing research project that examines the governance and institutional determinants of farm resilience in Bulgaria. The proposed analytical framework builds on contemporary concepts of farm resilience while incorporating governance as a key determinant of sustainability and adaptive capacity, following the holistic perspective suggested by Bachev (2016).

Special attention is devoted to the influence of governance mechanisms, institutional settings and water management strategies on the ability of farms to respond to external shocks and long-term structural changes. Rather than relying on a single composite measure, the study proposes a multidimensional indicator system that captures the complex interactions between management practices, institutional support and resilience outcomes. Such an approach is consistent with the understanding that effective governance is a key driver of sustainable rural development and food system transformation (Ostrom, 2009).

By linking governance structures with resilience and sustainability objectives, the proposed framework contributes to ongoing discussions on strengthening rural areas and supporting evidence-based policy making within the European context.

Keywords: farm resilience; governance; institutions; sustainable rural development; adaptive capacity; agricultural holdings.

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Universal Design for Rural Renewal: Making Places Livable for All Generations

Rural generational renewal is often framed in terms of access to land, employment, finance, and agricultural succession. This study argues that an equally fundamental condition is the accessibility and usability of everyday rural environments. If people cannot safely reach public services, community spaces, health care, education, transport, digital information, and local decision-making, the “right to stay” remains incomplete for older residents, persons with disabilities, families with children, carers, and young people considering whether to build their futures in rural areas.

Building on research developed within the GRANULAR project, this contribution examines Universal Design (UD) as a governance approach for strengthening rural resilience, accessibility, and wellbeing. The study is grounded in the case of Ignalina, a sparsely populated Lithuanian region experiencing demographic decline, ageing, and uneven access to services. Using a design thinking perspective, the study analyses how public institutions identify accessibility needs, define local problems, co-create solutions, prototype interventions, and test their relevance with communities. The findings show that accessibility is not a narrow technical issue, but a structural dimension of rural resilience. Community micro-grants, volunteer support, digital accessibility tools, and public service improvements demonstrate the potential of UD to strengthen participation and wellbeing. At the same time, outdated infrastructure, fragmented responsibilities, limited funding, and unclear implementation guidance continue to restrict systematic change.

The study also emphasises that wellbeing and accessibility are core goals of the European social model and of EU commitments to equal opportunities, independent living, and inclusive participation. For rural areas, these commitments require territorial translation; that is, accessibility standards must be embedded in planning, public procurement, rural development funding, service design, and community-led initiatives. Without such integration, demographic renewal policies risk overlooking the lived conditions that determine whether people can remain, return, or settle in rural places.

By linking Universal Design with the right to stay, this study contributes to Rural Pact development by proposing accessibility as a strategic policy lens for generational renewal. It concludes that improving infrastructure for all people can reduce exclusion, increase trust in local institutions, support ageing in place, and make rural communities more attractive for younger generations. Universal Design is therefore not only about removing barriers; it is about creating rural futures in which diverse generations can live well, participate fully, and choose to stay.

Keywords: Universal Design; rural accessibility; public services; right to stay; rural generational renewal; ageing rural populations; wellbeing.

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Assessing Agricultural Support Measures through a Regional Development Lens: A Methodological Framework for Resilient Rural Areas

The resilience of rural areas has become an increasingly important issue in European policy debates, particularly in the context of geopolitical uncertainty, demographic decline, regional disparities, climate-related challenges and the preparation of the next Multiannual Financial Framework for 2028–2034. These developments call for a more integrated understanding of how agricultural support measures contribute not only to the competitiveness of farming, but also to broader regional development, social cohesion and environmental sustainability.

The aim of this paper is to develop a conceptual and methodological framework for assessing the contribution of agricultural support measures to regional development. The paper is based on an ongoing doctoral research project and proceeds from the assumption that the effects of the Common Agricultural Policy should be evaluated not only through sector-specific agricultural indicators, but also through their wider contribution to the development of rural regions. Therefore, the proposed framework links regional development theories, the objectives of the Common Agricultural Policy and the priorities of the Long-Term Vision for the EU's Rural Areas.

The methodological approach combines three interrelated analytical dimensions: economic, social and environmental development. These dimensions are further linked to the four pillars of the Long-Term Vision for Rural Areas: stronger, connected, resilient and prosperous rural areas. On this basis, the paper proposes a structured set of regional indicators for assessing how agricultural support measures may contribute to balanced and sustainable territorial development. The framework is designed for application at the NUTS 3 regional level, subject to data availability, and may subsequently be tested using multi-criteria assessment methods.

At this stage, the paper focuses on the development and justification of the assessment framework, which will later be tested empirically. Its added value lies in bridging agricultural policy evaluation and regional development analysis by offering a more territorially sensitive approach to assessing the role of public support in rural areas.

The proposed framework may be relevant to discussions on the future of the CAP, the Rural Pact and rural resilience in both EU Member States and candidate countries. It also contributes to the debate on how future policy frameworks, including the MFF 2028–2034, could better reflect the diversity of rural regions and support people's right to remain, live and work in rural areas.

Keywords: Common Agricultural Policy; regional development; rural resilience; agricultural support measures; Long-Term Vision for Rural Areas; NUTS 3 regions; policy evaluation.

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The thERBN Digital Platform for Rural Bioeconomy: Insights from Poland

The transition towards resilient rural areas and sustainable food systems in Europe crucially depends on better mobilisation of bioeconomy knowledge, actors and funding at multiple governance levels. However, information on innovative bio-based solutions, business models and collaboration opportunities remains fragmented and difficult to access for rural stakeholders. The Thematic European Rural Bioeconomy Network (thERBN) addresses this challenge by developing an EU wide, multi actor thematic network and an open digital platform dedicated to the rural bioeconomy. The thERBN platform is an EU funded thematic network that aims to remove persistent knowledge and innovation gaps by establishing an EU wide, multi actor community around the rural bioeconomy. The thERBN digital platform was designed as an open, user centred knowledge hub connecting researchers, advisers, policymakers, farmers, rural entrepreneurs and civil society organisations. The platform responds directly to the need for better governance and knowledge flows to support resilient rural areas and sustainable food systems, as emphasised in current European rural development and bioeconomy policies.

The thERBN platform integrates several functions: curated factsheets on the state of the bioeconomy at EU, national and regional levels; inventories of research results, biotechnology based commercial solutions and funding opportunities; online tutorials and educational materials on five bioeconomy related thematic areas; business model blueprints for rural bio based initiatives; and a space for sharing ideas and collaboration opportunities. Together, these components aim to reduce information asymmetries, support evidence based decision making and foster innovation ecosystems in rural regions.

Polish case studies illustrate how local authorities, advisory services, AKIS-related groups and SMEs can use the platform both to present their achievements and to identify bio-based value chain opportunities (e.g. biomass valorisation, circular use of agricultural residues), improve access to funding and support the implementation of national and regional bioeconomy strategies as well as CAP Strategic Plan interventions. The examples highlight both enabling factors and barriers for platform uptake in a country with a strong agri-food sector, significant regional disparities and a diverse set of innovation actors engaged in rural development.

Keywords: Rural bioeconomy, Knowledge platform, Multi-actor network, Sustainable food systems, Rural governance, Innovation uptake, Policy support.

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Designing the National Rural and Partnership Plan in Romania: Institutional Challenges, Stakeholder Perspectives, and the Path Towards an Integrated Vision

The post-2027 Multiannual Financial Framework introduces the National Rural and Partnership Plan (NRPP) as a new integrated instrument aimed at combining agriculture, cohesion, fisheries, rural development, and social policy into a single national programming document. This represents a significant governance shift for EU Member States, requiring the alignment of multiple sectorial priorities, management authorities, and funding streams under one overarching plan. Romania, like many Member States, faces both institutional and structural challenges in adapting to this new architecture.

This paper presents the findings of an in-depth focus group conducted within the Tools4CAP project framework with key stakeholders from the Romanian Ministry of Agriculture and Rural Development (MARD) and farmer organisations, exploring their perspectives on the design, coordination, and visioning processes for the future NRPP in Romania.

The findings reveal that Romania's NRPP design process is already under way, with intense exchanges between MARD, the Ministry of Finances, the Ministry of Investments and European Projects (MIEP), and other ministries. Stakeholders converge on a sectorial-chapter structure as the most likely format for the NRPP, with a national rather than regional approach dominating the agriculture and rural development chapters. MIEP emerges as a potential coordinating authority, drawing on its experience with the National Recovery and Resilience Plan, though the Coordinating Authority's role is expected to remain largely administrative, with sectorial management authorities retaining direct control over their respective chapters.

Key challenges identified include: potential divergences in inter-ministerial priority negotiations; uncertainties in fund allocations for rural development interventions competing with other policy domains; risks of agriculture being marginalised within a large integrated plan; and significant technical difficulties in merging databases and informatic systems across management authorities managing hundreds of thousands of beneficiaries. The absence of ex-ante evaluation and strategic environmental assessment in the new architecture also raised concerns among participants.

Among the opportunities highlighted, stakeholders emphasised the potential for accessing larger financial allocations for rural development, the ability to address structural problems – such as excessive farm polarisation and the dominance of raw material exports – from multiple policy angles, and the prospect of reducing territorial inequalities by supporting family farms and normalising production structures.

On the development of an integrated vision, participants stressed that MARD should assume the role of political and technical leader in the agriculture and rural development dimension, building on lessons from the current National Strategic Plan and the National Recovery and Resilience Plan. The vision-building process is expected to involve structured stakeholder dialogue across ministries, farmers' organisations, civil society, and research institutions, with EC guidelines and research-based tools playing a supporting role. Participants also called for

flexibility in adopting EU-level toolkits, favouring non-binding guidance that allows national adaptation.

The paper contributes to the broader ERDN debate on resilient rural governance by illustrating the specific institutional landscape and political economy that will shape NRPP implementation in a new Member State context, offering comparative insights relevant to other EU countries navigating similar transitions.

Keywords: National Rural and Partnership Plan; Romania; agricultural governance; integrated vision; stakeholder engagement; post-2027 CAP.

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An EU Member State in the Process of Systemic Adjustment: Poland's Rural and Agricultural Policy Experience and the Road Ahead

Poland's 2004 accession to the European Union is usually read as the closing chapter of post-communist transformation. Two decades of membership suggest otherwise: accession did not end systemic adjustment, it changed its form. Rural areas and agriculture show this most clearly, having been the sectors most heavily restructured by the *acquis communautaire* before accession and most heavily financed, regulated, and monitored by European instruments after it.

The paper examines how Poland has shaped rural and agricultural policy over those twenty years, and how it is now preparing for the 2028–2034 financial perspective. Poland's case is presented as a source of transferable lessons on the sequencing, institutional demands, and political economy of adjustment that a candidate country and, later, a member state must manage.

The evidence base is the synthesis of the data and the research literature analysing the first 2 decades of Polish membership to the EU. It documents measurable gains: convergence of farm incomes and productivity, large-scale modernization of agricultural infrastructure, diversification of the rural economy beyond farming, better rural services and connectivity, and a marked narrowing of the urban–rural gap in living standards. It also documents problems that remain unresolved or have newly emerged: a fragmented farm structure coexisting with rapid land concentration in some regions, uneven generational renewal, mounting climate and environmental pressure on production systems, and regional disparities that EU transfers have reduced but not closed.

These unresolved problems are precisely the ones the EU's current strategic agenda addresses, which makes the Polish record a test case rather than a national anecdote. The Long-Term Vision for the EU's Rural Areas (2021), with its delivery machinery of the Rural Pact, the Rural Action Plan, and rural proofing, set a 2040 horizon of stronger, connected, resilient, and prosperous rural areas. The Commission's Vision for Agriculture and Food (February 2025) extends that horizon to the agri-food sector, with attractiveness, competitiveness, sustainability, and fairness as its 2040 objectives, and commits to an updated Rural Action Plan and a strengthened Rural Pact. The Strategy for Generational Renewal in Agriculture (October 2025) aims to double the

share of young farmers by 2040, and the forthcoming EU Strategy on the “Right to Stay” is intended to make remaining in a rural area a viable choice, underpinned by infrastructure, services, and economic opportunity. Poland's twenty-year record, strong on absorption and modernization but weak on generational renewal and territorial convergence, indicates where these strategies are likely to meet the greatest resistance in implementation.

The second part turns from retrospective assessment to the present round of adjustment: negotiation of the Multiannual Financial Framework for 2028-2034 and the Commission's proposal to merge cohesion and agricultural funding into single, country-level National and Regional Partnership Plans. This breaks with the two-pillar architecture familiar since accession, under which direct payments and rural development were programmed and negotiated as a largely separate agricultural track, and it puts in question the ring-fencing logic that has underpinned rural policy since 2004.

The paper reports the domestic debate this has triggered in Poland. The Commission proposes a minimum of roughly €24.6 billion for CAP interventions in the new period, while carrying forward agriculture's current share of combined CAP and cohesion spending would imply closer to €32.8 billion; the Ministry of Agriculture has called the Commission's figure decidedly insufficient. The parliamentary Agriculture and Rural Development Committee has petitioned the government for a ring-fenced CAP chapter of at least €35 billion in EU contribution and for a dedicated “rural target” of close to €9 billion, to guarantee village-level funding independently of how the Partnership Plan is negotiated sector by sector. Farmers' organizations and rural civil society warn that a shift toward broader, discretionary territorial planning could dilute the attention rural development received under the two-pillar framework, while conceding that integration could reduce administrative duplication and better connect agricultural and non-agricultural investment in the same territory.

The two strands support one argument: the adjustment a country undertakes to become and remain an EU member state is neither linear nor finite. Institution-building, data and monitoring capacity, and the political organization of rural and agricultural interests must be in place well before accession, because they determine how effectively a country can absorb funds and defend its priorities when the terrain shifts again, as it is shifting in Poland now.

Membership, therefore, does not end the work of systemic adjustment but it relocates it from the terms of accession to the terms of continued participation in a Union that is itself redefining the rural policy for the future. Understanding that continuity, rather than treating accession as a finish line, is the central practical lesson Poland's rural and agricultural experience has to offer.

Keywords: European Union, systemic adjustment, Poland, rural development, Common Agricultural Policy, long-term vision for rural areas, right to stay, Vision for Agriculture and Food 2040, generational renewal, MFF 2028-2034, National and Regional Partnership Plans.

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The Role of Governance and Policy Frameworks in Strengthening Rural Economic Resilience: The Case of Kosovo

Rural areas play a fundamental role in promoting sustainable economic development, ensuring food security, and preserving social cohesion. However, rural communities in Kosovo continue to face significant structural challenges, including limited access to finance, fragmented agricultural production, inadequate infrastructure, weak market integration and the effects of climate change. These challenges reduce the resilience of rural economies and hinder the development of sustainable food systems. This study examines the role of governance and public policy frameworks in strengthening rural economic resilience in Kosovo, with particular attention to institutional effectiveness, agricultural support measures and rural development policies.

The research adopts a mixed-methods approach, combining a review of national policy documents and relevant literature with quantitative data collected through a structured questionnaire administered to farmers, agri-food SMEs, and rural entrepreneurs. The research is based on secondary data obtained from national and international reports, government publications, policy documents and statistical databases. A comparative and descriptive analysis is conducted to assess the relationship between governance quality, policy frameworks, rural development indicators and economic resilience in Kosovo.

The study hypothesizes that effective governance and well-designed policy frameworks positively influence rural resilience by improving agricultural productivity, facilitating market access, encouraging entrepreneurship, and promoting sustainable food systems. The expected findings suggest that transparent institutions, targeted financial support, investment in rural infrastructure and stronger coordination among government agencies and local stakeholders are key determinants of resilient rural economies. The paper contributes to the growing literature on rural development by providing empirical evidence from Kosovo and offering policy recommendations that support sustainable economic growth, food system resilience, and alignment with European Union rural development objectives. The findings are expected to be relevant to policymakers, researchers and development practitioners working to strengthen rural resilience in transition economies.

Keywords: Rural economic resilience; Governance; Public policy; Sustainable food systems; Rural development; Agricultural policy.

Weronika Felcis¹, Jonny Hanson²¹ University of Latvia, Latvia² Queen's University Belfast, Northern IrelandEmail address: j.hanson@qub.ac.uk**Pitch Perfect Championships: Presenting with Rigour, Lightness, and Confidence****PITCH PERFECT
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Keywords: Research communication, presentation skills, public speaking, science communication, research presentations.

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Heavy Metal Contamination of Agricultural Soils in the Mitrovica Region and Implications for Agricultural Policy and Farm Structural Transformation in Kosovo

Heavy metal pollution of agricultural land is a critical environmental and economical problem in Kosovo. The Mitrovica region is particularly affected as it suffers from the legacy of decades of mining and metallurgical activities, which caused long-term soil pollution. High levels of the heavy metal elements such as lead (Pb), cadmium (Cd), zinc (Zn), arsenic (As), copper (Cu) and nickel (Ni) threaten soil quality, food safety, ecosystem health and the sustainability of agricultural production. The environmental and public health impacts of heavy metal contamination have been well documented in previous studies, but little research has been conducted on the implications for agricultural policy and the structural transformation of farm holdings.

In this research a literature review is presented which highlights the available information of geographical distribution, ecological risks and agricultural impacts of heavy metal contamination in the Mitrovica region. As Kosovo continues its alignment with the European Union's Common Agricultural Policy (CAP), the paper considers the implications of soil contamination for land use, crop suitability, farm investment, land prices and the potential for integration into higher value agricultural markets. The assessment also looks at the inclusion of soil contamination in the environmental sustainability and rural development indicators of the existing agricultural and rural development measures.

The study reveals that heavy metal contamination is not only an environmental constraint but also a serious barrier to sustainable agricultural growth and farm modernization in the afflicted regions. The results emphasize the necessity of combining soil monitoring with risk-based land management in the design of agricultural policy, targeted remediation, and incentives to promote ecological farming practices. In an effort to achieve better environmental protection the integration of soil pollution concerns into the agricultural policy structures should be strengthened, supporting on one hand the transformation of the farm structure and alternatively the Kosovo integration with European agricultural and environmental standards.

Keywords: Heavy metal contamination; agricultural soils; Kosovo agriculture; soil pollution; sustainable agriculture; agricultural policy; European Union Common Agricultural Policy (CAP).

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Schools as engines for rural development: the School Involvement Priority Access (SIPA)

Across Europe, rural areas continue to face structural challenges related to depopulation, population ageing and the progressive loss of essential local services. Among these, the closure of first-cycle schools (0–14 years) represents not only a consequence of demographic decline but also a factor that further undermines the long-term resilience of rural communities. Despite their strategic role as permanent territorial infrastructures and intergenerational anchors, schools remain largely overlooked within Rural Development policies and are rarely recognised as active actors in territorial governance. This gap appears particularly significant in light of the objectives of the EU Rural Pact, which identifies the right to stay and generational renewal as key priorities for the future of rural Europe.

This paper presents the School Involvement Priority Access (SIPA), a governance mechanism developed within a broader research on Rural Educational Landscapes and applied to the Piedmont Regional Complement for Rural Development (CSR 2023–2027). Piedmont provides a particularly relevant case study because of the exceptional diversity of its rural landscapes, ranging from Alpine and inner mountain areas to hill systems and intensive agricultural plains. Combining a review of rural policy frameworks, GIS-based spatial analysis of educational fragility and agricultural potential, and qualitative fieldwork based on interviews with local stakeholders, the research explores how these different territorial conditions can inform the development and operational integration of SIPA within the CSR framework. The case study demonstrates how the proposed mechanism can respond to heterogeneous territorial conditions while remaining compatible with existing Common Agricultural Policy (CAP) governance structures.

Rather than introducing new funding measures or modifying existing financial architectures, SIPA embeds an additional qualitative evaluation criterion within existing Rural Development calls, rewarding projects that demonstrate the structured involvement of first-cycle schools. Through a progressive scoring system based on the depth of school participation, the mechanism encourages meaningful educational integration while preserving administrative feasibility and compatibility with current CAP implementation frameworks.

By incentivising cooperation between schools, farms, local authorities and other regional stakeholders, SIPA fosters new ways of working together capable of strengthening both the territorial role of schools and the resilience of rural communities. Instead of treating schools as passive institutions, the mechanism recognises them as active players that can help shape and carry out Rural Development projects. In doing so, SIPA introduces an intergenerational dimension into existing policy frameworks, helping to secure the future of communities facing depopulation.

While grounded in the Piedmont case study, SIPA is conceived as a flexible and transferable governance instrument that can be adapted to different CAP Strategic Plans and Rural Development contexts across Europe. The proposed mechanism, by integrating educational infrastructures into Rural Development policies, can contribute to current discussions on the future CAP and the EU Multiannual Financial Framework (MFF) 2028–2034. Crucially, when

combined with territorial analysis, SIPA can support the identification of strategic pilot cases, paving the way for concrete spatial transformations and shifting the focus from policy design to the tangible regeneration of rural landscapes. By putting into practice the principles of the EU Long-Term Vision for Rural Areas, SIPA offers a practical pathway towards more resilient, inclusive, and socially sustainable rural territories.

Keywords: rural development; rural schools; territorial governance; Common Agricultural Policy; Rural Pact; policy instrument; Piedmont.

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Sustainable Water Resource and Environmental Management in the Western Balkans Using Horizon Scanning and Foresight Approaches

Integrated monitoring systems and progressive policy frameworks are needed for sustainable management of water resources in the Western Balkans (WB) to cope with evolving environmental issues. In this paper we offer a multidisciplinary method that integrates improved water quality monitoring, geographical modeling and environmental foresight to promote sustainable water resources management and evidence-based policymaking.

The proposed framework aims at (i) assessing the effectiveness of current water quality monitoring systems and identifying opportunities for improvement through advanced sensing technologies; (ii) designing a dense, multi-scale sensor network based on environmental, hydrological and spatial criteria; (iii) integrating Geographic Information Systems (GIS), Land Use Regression (LUR) and dispersion modelling to assess the spatial distribution of water pollutants; and (iv) evaluating water quality using pollution load indices and estimated pollutant concentrations.

Embedding horizon scanning in a wider environmental foresight framework is a significant novelty of the suggested technique. Horizon scanning is a methodical approach to identifying emerging trends, weak signals and potential drivers of environmental change that might affect future water resources in the Western Balkans. The framework, in combination with geographical analysis and predictive modelling, allows assessment of long-term environmental threats, evaluation of policy consequences and creation of adaptive management strategy.

The proposed methodology offers a scientifically sound and policy relevant framework to strengthen environmental governance, improve water quality assessment and enhance the resilience of water resource management in the Western Balkans under future environmental and socio-economic change.

Keywords: Sustainable water resource management, Horizon scanning, Environmental foresight, Water quality monitoring, Geographic Information Systems (GIS).

Fjolla Gashi¹, Albana Jupe¹, Ekrem Gjokaj²¹ Agricultural University of Tirana, Department of Finance/ Accounting/ Tirana, Albania,² Public International Business College Mitrovica, KosovoEmail address: foagashi@outlook.com (corresponding author), albanajupe@ubt.edu.al, e.gjokaj@ibcmitrovica.eu**Financing Livestock Farms on the Path to EU Integration: Farm-Level Efficiency and Policy Asymmetries in Kosovo and Albania under the EU Multiannual Financial Framework 2028–2034**

The livestock sector, and dairy farming in particular, remains a cornerstone of rural employment, food security and agricultural income in the Western Balkans. However, the financing frameworks supporting this sector differ substantially across the region and are entering a period of profound change, as the proposed EU Multiannual Financial Framework 2028–2034 restructures the Common Agricultural Policy into a single fund based on national plans, while enlargement returns to the top of the EU agenda. This paper examines livestock financing policies in two closely connected but institutionally asymmetric cases: Albania, an EU candidate country and IPARD III beneficiary whose pre-accession rural development funds have faced prolonged suspension, and Kosovo, a potential candidate without IPARD access, which relies on comparatively generous national direct payments and donor-funded schemes. The comparative policy analysis combines empirical evidence from Kosovo with a comparative assessment of financing policies in Albania and the European Union. Using primary data from 138 dairy farms collected in 2024, technical efficiency is estimated through Data Envelopment Analysis (VRS-BCC) and its determinants are analyzed with Beta regression. The average efficiency score of 0.63 indicates that many farms operate below the production frontier. Herd size shows a significant positive effect on efficiency, while the amount of credit shows a positive but statistically weak influence, suggesting that access to finance alone does not guarantee productivity gains. The comparison aims to identify differences in financing frameworks and institutional support, providing a basis for policy recommendations to strengthen agricultural financing and support EU integration.

Keywords: livestock financing, technical efficiency, EU integration, MFF 2028–2034, Kosovo, Albania.**Živilė Gedminaitė-Raudonė, Rita Lankauskienė**

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Email address: zivile.gedminaitė@ekvi.lt**Policy Integration in EU Governance: Stakeholder Perspectives on National and Regional Partnership Plans in Lithuania**

Recent debates on the future of European Union governance increasingly emphasize the need for integrated policy frameworks capable of aligning agricultural, territorial, environmental, and socio-economic development objectives within coherent strategic planning systems. In the context of preparations for the next EU programming period, one proposed innovation is the development of National and Regional Partnership Plans, intended to strengthen coordination between different EU funding instruments and policy priorities within a single national planning framework.

This presentation examines stakeholder perspectives on integrated policy planning in Lithuania, with particular attention to how policy actors interpret the potential role of National and Regional Partnership Plans in strengthening policy coherence, territorial development, and governance coordination. The analysis is informed by the literature on policy integration and multi-level governance, focusing on three interrelated dimensions: the alignment of strategic priorities, the perception of policy trade-offs, and the institutional capacity required for coordinated implementation.

The research is based on a qualitative focus group discussion involving policy stakeholders, researchers, and institutional representatives in Lithuania. Thematic analysis is used to identify how participants define key planning priorities, interpret the relationship between competitiveness, regional vitality, and sustainability, and assess the governance challenges associated with more integrated EU policy frameworks.

The presentation will discuss three main findings. First, conceptual ambiguity around strategic priorities such as competitiveness, sustainability, and regional development may complicate the coordination of policy objectives across sectors and governance levels. Second, stakeholder perspectives suggest that perceived tensions between economic competitiveness and environmental sustainability may be less pronounced than is often assumed, particularly when sustainability is understood as a long-term condition for viable rural and regional development. Third, the effective implementation of integrated planning frameworks depends on stronger governance capacity, including cross-ministerial coordination, clearer division of responsibilities, stakeholder involvement, and shared monitoring systems.

By presenting empirical insights from Lithuania, the research contributes to discussions on EU policy integration, multi-level governance, and the future design of strategic planning frameworks for rural and regional development.

Keywords: policy integration; integrated policy planning; multi-level governance; National and Regional Partnership Plans; regional development; rural policy; stakeholder governance.

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The Economic Cost of Territorial Exclusion in Rural Poland

European rural policy assumes that transport, digital and service accessibility deficits constrain rural economic performance and that place-based governance can reduce them. Empirical verification is limited by the separation of data sources: accessibility is measured in municipal statistics, individual outcomes in household surveys, and the two are seldom combined. Economic geography predicts that limited market access reduces wages and firm entry (Krugman 1991); transport research treats restricted mobility as a constraint on labour-market and service participation (Lucas 2012). Survey evidence records rural subjective wellbeing at or above urban levels (Sørensen 2021); the smart-village concept itself is theoretically underspecified (Loewen & Streifeneder 2025). The objective is to quantify the association between territorial exclusion and municipal economic outcomes in Poland and to establish at which level of measurement it is observable. The unit of analysis is the gmina.

Data and method: Administrative data cover all 2,479 municipalities: Statistics Poland series on gross wages, own tax capacity, business registration, social assistance and age structure; the UKE broadband register; the transport-exclusion atlas (share of address points below minimum public-transport service standards); and driving times to emergency departments. Survey data are from the INSPIRE national CAWI survey ($n = 519$; 193 rural respondents), conducted under Horizon Europe grant 101136592.

Both sources are aggregated by TOPSIS with entropy weights (Hwang & Yoon 1981). Nine municipal indicators, transport exclusion, NGA white spots, driving time to emergency care, median wage, own tax capacity, poverty rate, sole proprietorships, net migration and population aged 65+, yield a Territorial Exclusion Index (TEI) for the 2,244 municipalities with complete data. Five corresponding survey items yield an Individual Exclusion Score (IES). Respondents are assigned to region-settlement-type strata, permitting comparison of the indices. Municipal outcomes are regressed on the TEI, controlling for population, density, municipality type and voivodeship.

Results: From the lowest to the highest TEI quintile of rural and urban-rural municipalities, broadband coverage declines from 91% to 57%, driving time to emergency care rises from 16 to 31 minutes, the median wage declines from PLN 7,140 to PLN 6,354, own tax capacity per resident from PLN 3,135 to PLN 1,654, sole proprietorships from 971 to 632 per 10,000, and net migration changes from +6.4 to -3.7 per 1,000. The highest quintile contains 420 municipalities and 2.15 million residents, concentrated in Warmińsko-Mazurskie and Podlaskie.

In regressions with controls, one standard deviation of the TEI corresponds to a 2.8% lower median wage (PLN 181 per month), 24.9% lower own tax capacity, 78 fewer sole proprietorships per 10,000 residents, 1.31 percentage points higher poverty and 2.74 additional net-migration losses per 1,000 annually.

Mean IES rises from 0.08 among urban to 0.17 among rural respondents, and one standard deviation of the TEI raises it by 0.035 ($p < 0.001$); across strata the indices correlate at $r = 0.67$. Reported public-transport difficulty, digital exclusion and car ownership increase with the TEI; life satisfaction (6.63 and 6.53 in the lowest and highest terciles) and social connectedness do not.

Conclusions: Territorial exclusion in Poland is associated with differences in wages, enterprise density, fiscal capacity and population retention, and not with differences in reported subjective wellbeing. Evaluation of place-based instruments against subjective wellbeing indicators is therefore unlikely to detect effects; wage, enterprise, fiscal and demographic indicators are more appropriate. Two limitations apply. The survey identifies region and settlement size but not municipality, so micro and territorial data link only at stratum level; all estimates are cross-sectional associations and are not interpreted causally. Rankings are insensitive to weighting: the Spearman correlation between the entropy-weighted and equally weighted TEI is 0.91.

Keywords: transport exclusion; digital divide; rural economy; fiscal capacity; multi-criteria analysis; TOPSIS; Poland.

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Nature connection and pro-conservation behaviours among teenagers in Northern Ireland

Nature connectedness is increasingly recognised as an important psychological construct for environmental sustainability and human wellbeing, with growing evidence linking it to pro-environmental and pro-conservation behaviours. However, less attention has been paid to the relationship between nature connection and conservation behaviour among teenagers, particularly in divided, post-conflict and geographically varied contexts such as Northern Ireland. This paper examines these relationships using data from the 2026 Young Life and Times survey, a long-running annual survey of 16-year-olds in Northern Ireland.

Drawing on the work of Miles Richardson and colleagues, especially the Nature Connection Index and the wider literature on pathways to nature connectedness, the paper considers whether higher levels of nature connection are associated with stronger self-reported pro-conservation behaviours among young people. The analysis is based on an online questionnaire completed by 933 respondents, including both rural and urban teenagers. It examines associations between scores on the Nature Connection Index and a youth pro-conservation behaviour index, alongside socio-demographic and spatial variables including gender, rurality, household affluence and access to a garden.

Initial findings indicate a strong positive correlation between nature connection and pro-conservation behaviour. Rural respondents, female respondents, less affluent respondents and those with access to a garden scored significantly higher on one or both scales. These patterns suggest that nature connection is not only associated with individual attitudes and behaviours, but is also shaped by place, everyday access to nature and wider social inequalities.

The paper concludes by highlighting the relevance of nature connection for debates about resilient rural areas and sustainable food systems. If young people's relationship with nature influences their willingness to engage in conservation behaviours, then education, planning, rural development and food-system policy all have a role in supporting equitable access to meaningful everyday nature. This is especially important where structural inequalities may shape who benefits from nature and who participates in pro-conservation action.

Keywords: Northern Ireland, teenagers, nature connectedness, pro-conservation behaviour, rurality, sustainable food systems, Young Life and Times.

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Challenges in the Implementation of Digital Inclusion Policies in Public Education in Kosovo: A Governance Perspective

Digital inclusion has been a major focus of school reform, as the knowledge grows that equal access to digital technology is a key to good education and social inclusion. Digital inclusion is not only about infrastructure, but also about access to digital resources, digital skills development, inclusive learning settings and the institutional ability to enable meaningful interaction for all learners. As educational institutions increasingly rely on digital resources, governments have the obligation to transpose digitalization policies into effective and inclusive practices. Many countries have adopted ambitious policies but implementation often lags behind, especially in areas defined by socio-economic and geographical disparities. Kosovo is a case in point. Despite digitalization being a strategic objective, implementation barriers remain, hampering educational equality.

Digitalization is one of the five key areas for improving the quality of education in the Education Strategy 2022-2026 of Kosovo and the policy provides a framework for digital technology integration at all levels of education. However, empirical information on the implementation of such policies and the impact of governance structures on their success remains limited. Although the Ministry of Education and international organizations such as the OECD have reported on progress in digital education, they have also pointed out the inequalities that continue to exist regarding infrastructure, internet access, teacher training and access to digital learning opportunities, especially in rural areas and among marginalized groups. These disparities threaten the capacity of institutions to attain national digital inclusion objectives.

This article discusses the administration and implementation of digital inclusion methods in public education in Kosovo. It assesses the execution of national plans by educational authorities and schools, and looks at institutional leadership, teacher preparedness, technology infrastructure and the engagement of rural and marginalized populations. Digital inclusion is seen to be a complex governance challenge that requires policy implementation, institutional ability, leadership and social equity, rather than only technical modernity.

Three questions guide the research: (1) What are the governance policies that encourage the digitalization of Kosovo's public education system and how are they implemented? (2) How can institutions of public education lead and operationalize digital inclusion? (3) What is the nature of the implementation issues, especially in rural and disadvantaged settings?

We employ a blended method approach. The document analysis will comprise laws, initiatives and policy papers to find governance frameworks. The project will adopt a comparative case study method in selected urban and rural schools to evaluate disparities in institutional capabilities and approaches to implementation. Governance and leadership processes will be understood through semi-structured interviews with policy makers, ministry officials, local authorities and school administrators. Surveys of school leaders, teachers and students will also capture perspectives on digital access, competencies, professional development and obstacles to inclusion.

The study is meant to suggest that there are still significant variations among schools and localities despite a robust policy framework. These gaps are most likely connected with inequalities in infrastructure, leadership, financial resources, teacher training and local administrative competence. Rural schools and vulnerable people will probably have fewer access to quality digital education. This restricts equitable participation. The research will also highlight institutional practices that might guide future policy reforms. The report adds to literature on educational governance, digital transformation and inclusive education, and provides empirical data from an under-researched environment, Kosovo. It examines the link between policy design and execution and gives insight into the prerequisites for effective digital inclusion. The findings are intended to help policymakers, educators and development partners to promote digital education policies, build institutional capacity and address imbalances in education. Ultimately, the research argues that true digital inclusion is not only about investment in technology, but also about ongoing commitment to governance, teacher development and fair access for all learners.

Keywords: digital inclusion; educational governance; policy implementation; digital transformation; public education; educational leadership; educational equity.

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The external sector of the Republic of Moldova in 2025: Challenges and implications for economic resilience

This paper analyzes the performance of the external sector of the Republic of Moldova in 2025, focusing on international trade in goods and the role of remittances. The research aims to provide a multidimensional assessment of the external sector's resilience by examining key trends, structural changes, and their subsequent effects on the country's macroeconomic stability. Methodologically, the study relies on quantitative and qualitative analyses of economic indicators, comparative assessments against 2024 data, and the evaluation of long-term trends covering the 2010–2025 period. Furthermore, it details the geographical distribution of trade across country groups and commodity categories, while tracing the correlation between domestic consumption and reliance on external factors, specifically remittances and imports. Official statistical data provided by the National Bank of Moldova and the National Bureau of Statistics serve as the empirical foundation for this study.

The main results highlight a sharp increase in trade imbalances during 2025. While total trade in goods reached USD 14,704.3 million, imports surged by 20.5% to USD 10,921.6 million, whereas exports contracted by 6.4%, falling to USD 3,782.7 million. Consequently, the trade deficit expanded to USD 7,138.9 million, marking a 29.6% increase compared to the previous year, which lowered the trade coverage ratio to 34.6%. On a structural level, domestic goods accounted for 78.8% of total exports, underlining the consistent role of local production in driving export activities. The geographical breakdown confirms a deeper integration with the European Union, which absorbed approximately 67.5% of Moldovan exports and generated 54.1% of its imports, with Romania maintaining its position as the country's primary trading partner. Concurrently, inbound remittances totaled USD 1.66 billion, a 3% increase compared to

2024. Even though their share of GDP has decreased relative to previous decades, remittances remain a vital income source for households and a key driver of private consumption. The findings confirm that despite shifting closer to the European market, the economy of the Republic of Moldova remains structurally vulnerable to trade imbalances and dependent on external financial inflows.

Keywords: foreign trade, trade deficit, exports, remittances, economic resilience, structural analysis.

JEL Classification: F14, F24, O11

Acknowledgments / Note: The article was developed within the framework of Subprogram 030101 „Strengthening the resilience, competitiveness, and sustainability of the economy of the Republic of Moldova in the context of the accession process to the European Union”, institutional funding.

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Between Connectivity and Inclusion: Digital Transformation in Polish Rural Communities and Its Implications for Rural Governance and Policy

Rural areas across Europe are undergoing a profound, if uneven, digital transformation - one that reshapes daily life, public administration, and community relations. Digital connectivity has shifted from being a purely infrastructural concern to a structural condition of rural resilience: it mediates access to labour markets, public services, education and civic participation in ways that can either reinforce or partially offset long-standing urban-rural disparities. The outcomes of digital transformation are far from predetermined: they depend critically on how local governments, communities and multi-level policy frameworks govern the process, embed digital tools into existing social structures, and ensure that no group is left behind as services and social life migrate online.

This paper draws on qualitative research conducted in five rural municipalities (gminas) in Poland to investigate how local leaders perceive and experience digitalisation, and what institutional and policy responses are needed to harness its potential for rural development.

The study is based on in-depth interviews with local leaders - including mayors, councillors, and community representatives - who offered first-hand accounts of how digital technologies are altering the functioning of local governance and public life. The findings reveal a complex picture. On the positive side, local authorities have significantly expanded their use of digital channels to communicate with residents, increase administrative transparency, and improve access to information about municipal services and council activities. The COVID-19 pandemic acted as a powerful catalyst, rapidly accelerating the adoption of remote work, e-learning, and e-administration across rural communities.

At the same time, local leaders identify a series of structural challenges that constrain these gains. Limited digital competences among older residents, combined with the progressive migration of public services to online platforms, heighten the risk of digital exclusion for already vulnerable groups. More broadly, the digitalisation of everyday life appears to erode certain forms of social capital: weakened neighbourly relations and declining participation in public life are reported alongside increased time spent on entertainment platforms. Despite rhetoric about the "end of distance," leaders stress that fundamental territorial disparities persist in hard infrastructure - specialist healthcare,

higher education, public transport, and cultural facilities - that digital connectivity alone cannot address.

These findings carry important implications for rural governance and policy design. They point to the need for integrated rural digital strategies that go beyond infrastructure investment to encompass digital competence programmes, community-level institutions, and co-governance mechanisms. As the European Union shapes its next Multiannual Financial Framework (2028-2034) and revisits the Rural Pact commitments, ensuring that digital transformation becomes a genuine driver of rural resilience demands place-sensitive, institutionally embedded policy frameworks.

Keywords: digitalisation, rural areas, local governance, digital exclusion, rural resilience.

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Regional bioeconomy hubs as instruments for the Rural Pact: supporting the right to stay and generational renewal in Central European rural areas

The debate on the future of rural Europe is increasingly framed around the “right to stay”: the ability of rural citizens to live, work, innovate and build viable futures in their local communities rather than being forced to leave due to lack of opportunities, services or generational prospects. This idea is closely connected with the Long-term Vision for the EU’s Rural Areas and the Rural Pact, which call for stronger, connected, resilient and prosperous rural areas by 2040 (European Commission, 2021). It is also linked to generational renewal in agriculture, where access to land, finance, knowledge, advisory support and innovation ecosystems remains critical for attracting and retaining young farmers and rural entrepreneurs (European Commission, 2025a).

This contribution presents findings from the Central European Bioeconomy Strategy and Action Plan developed within the BIOECO-UP project. The analysis covered six Central European countries — Croatia, Czechia, Hungary, Poland, Slovakia and Slovenia — and combined desk research on national CAP Strategic Plans and bioeconomy-relevant policies with Delphi consultations, expert assessments, PESTEL analysis, SWOT/TOWS strategic orientation and prioritisation matrices (BIOECO-UP Consortium, 2025). The results show that circular bioeconomy can become a practical policy field connecting the Rural Pact with territorial development, provided that it is implemented through local governance, knowledge systems and place-based value chains.

The Strategy identifies four major barriers limiting bioeconomy uptake in Central European rural areas: fragmented governance, insufficient knowledge transfer, low market uptake of bio-based products, and technological or infrastructural gaps. These barriers directly affect the attractiveness of rural areas for younger generations, as they limit access to modern business models, innovation support and skilled employment. At the same time, expert consultations highlighted several transformation pathways with strong rural development potential, including bioenergy, regenerative and precision agriculture, bioprocessing, biomaterials and circular nutrient management.

A key finding is that regional bioeconomy hubs can act as territorial instruments for implementing the Rural Pact. Such hubs combine physical infrastructure — for example micro-biogas plants, biomass mobilisation platforms, composting or nutrient-cycling facilities, modular biorefineries — with institutional functions such as Living Labs, cooperation networks, advisory services, digital provenance tools and local innovation partnerships. By linking farmers, SMEs, research organisations, municipalities and civil society, they help retain value locally, diversify rural incomes and strengthen social acceptance of innovation (BIOECO-UP Consortium, 2025).

The contribution argues that rural generational renewal should not be treated only as a demographic or farm succession issue. It also requires creating meaningful local opportunities in circular value chains, advisory systems, digital agriculture, bio-based entrepreneurship and community-led innovation. Therefore, future Rural Pact implementation should support regional bioeconomy hubs, AKIS-based lifelong learning, modular skills certification, LEADER and EIP-AGRI cooperation, and inclusive governance involving young people, women, smallholders and local entrepreneurs. In this sense, circular bioeconomy can become one of the practical pathways through which the “right to stay” is translated into jobs, skills, services, local identity and future-oriented rural development.

Keywords: Rural Pact; right to stay; generational renewal; circular bioeconomy; regional hubs; AKIS; rural resilience.

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Drivers of New Public Management, Collaborative Governance and SDG Implementation in Green Transition: A Conceptual Review

The concepts of New Public Management (NPM), Collaborative Governance, and Sustainable Development Goal (SDG) implementation have gained increasing attention across sectors worldwide as key approaches to advancing the green transition. This article critically examines the evolution of conceptual models that have been developed, implemented, and evaluated to support sustainable governance and policy innovation in the context of the green transition. Particular attention is given to strengthening cross-sectoral collaboration and multi-level governance as mechanisms for addressing persistent challenges, including limited awareness, institutional capacity, and resource constraints that hinder the effective transfer and implementation of sustainable development practices.

This study presents a conceptual analysis of governance frameworks, policy implementation strategies, and regional collaborations, highlighting their role in advancing a New Public Management sustainability model aligned with the 2030 Agenda for Sustainable Development. The review draws on relevant theoretical perspectives to identify the key drivers that facilitate the integration of New Public Management, Collaborative Governance and multi-stakeholder partnerships in promoting sustainable development.

In addition, the paper discusses the necessity of New Public Management and Collaborative Governance to include more structured analyses of developing sustainability tendencies and the changing role of public servants in managing complex societal transitions. To this purpose, we propose the development of a trend-driven scenario model that can integrate several future paths in a multi-level governance setting. Based on our literature review, we contend that the Multi-Level Integration (MLI) approach offers a helpful middle-range framework for comprehending collaborative transformations in the cross-sector implementation of SDGs. The MLI approach fosters interaction and networking between academics, policy makers, businesses and citizens and therefore stimulates sustainability and economic resilience in domains such as climate change mitigation and adaptation, the circular economy, the European Green Deal and the broader green transition.

Keywords: New Public Management; Collaborative Governance; Sustainable Development Goals (SDGs); Green Transition; Multi-Level Governance; European Green Deal; Circular Economy.

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Email address: mckoc2004@hotmail.com, +90.5052372185; alikoc@akdeniz.edu.tr, +90.5444024199**The Impact of High Inflation on Consumer Expenditure Pattern by Income Percentile in Türkiye: Policy Implications for Rural-Urban Migration Dynamics**

Using the Turkish Statistical Institute (TurkStat) Household Budget Survey time series covering 2002–2025 (except, 2020 and 2021 unavailable), this study quantitatively examines the structural transformation in the composition of household consumption expenditure, particularly focusing on high inflationary period over 2022–2025. The analysis addresses three questions: how the budget shares of main expenditure groups (and within food group) have evolved over time; how differences across income groups can be interpreted within the framework of Engel's Law; and the magnitude of regional inequality at the NUTS-2 level. The Duncan index of dissimilarity, the coefficient of variation, cross-group correlation analysis and a simple Engel-slope estimation are applied to budget shares. The findings show that the food share fell from 26.7% to 17.3%, while the transport share rose from 8.7% to 20.5% and the housing share edged up from 27.3% to 29.3%. The Duncan dissimilarity index between the 2002 and 2025 baskets is 16.6 points, implying that roughly one sixth of the budget was reallocated across categories. The food group itself has also undergone significant structural changes between 2002 and 2024, the share allocated to bread and cereal products decreased significantly (from approximately 23% to 15.8%, -7.4 percentage points), while the share of meat and meat products increased (+4.3 percentage points); and with the rise in eating out habits, the share of ready-to-eat food and non-alcoholic beverages also increased. This internal shift reflects not only a change in preferences but also a shift towards a more diverse food basket with increasing income; the share of bread and cereals in Eastern Anatolia regions is still higher compared to the west. The estimated Engel slope for the food share across income quintiles is -3.99 points per quintile ($R^2=0.98$); the mandatory burden (food and housing) reaches 67.9% for the lowest income quintile versus 38.1% for the highest. A strong negative correlation ($r=-0.93$) is found between food and housing shares across regions. The results reveal a mixed transformation in which rising welfare and price shocks (high headline and food inflation) are intertwined, alongside a deepening inequality across both income quintile and geographic regions. This transformation bears the marks of long-term trends such as increasing prosperity and urbanization, as well as housing and inflation shocks. Simultaneously, expenditure inequality between income groups and regions has deepened; low-income households and those in Eastern Anatolia have been caught in a bind of mandatory spending.

According to 2025 data by TurkStat, 17% of Türkiye's population (14.4 million people) lives in predominantly rural areas, with 30% of this population aged 20–44 and 67% under the age of 50. Based on 81 provincial level cross-section data, a strong positive correlation exists between real per capita income and normalized (by population) net migration ($r = 0.799$; $p < 0.001$); a moderately negative correlation between real per capita income and rural population ratio ($r = -0.506$; $p < 0.001$); and a strong negative correlation between rural population ratio and net migration rate ($r = -0.655$; $p < 0.001$). Provinces with a high rural population ratio are both lower-income ($r = -0.506$) and experience higher net migration ($r = -0.655$). Rural-majority provinces such as Ardahan (65.1%), Tunceli (59.6%), and Gümüşhane (49.9%) exhibit low income and high net migration loss, while urbanized provinces such as Istanbul (0.9%), Ankara (4.3%), and Kocaeli (4.8%) show high income and positive net migration. This table confirms

that the rural-low income-migration loss chain moves together in Türkiye. Therefore, without appropriate policy intervention, migration can accelerate from predominantly rural to predominantly urban areas and to further worsen demographic erosion.

Keywords: Inflationary Pressure on Household Expenditure Pattern, Shifts in Food Expenditure Pattern, Food Expenditure and Poverty, Source of Migration from Rural to Urban, Inequality in Household Expenditure, Regional Inequality in Household Expenditure.

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Organic Wild Plants in Kosovo: Current Situation and Research Gaps

Kosovo is a country rich in forests which cover 45% of its land area and has a diverse flora and vegetation because of its geographic location, the historical evolution of its plant kingdom, and various factors such as topography, soil composition and climatic conditions. Wild plants have been traditionally collected in forests from rural communities in Kosovo and are a source for economic income for several thousand collectors. According to the inventory of wild plants (Non-Woody Forest Products), Kosovo has the potential to collect at least 29,000 tons of around 85 species which have commercial value. The richest regions of Kosovo with wild plants, including mushrooms, medicinal and aromatic plants and berries, are the Sharri Mountains and the Albanian Alps of Kosovo. As there is lack of data for collectors by the state, according to the reports of the organic certification bodies in Kosovo there are 802 contracted collectors involved in the process of wild collection, along with 17 collection companies. According to the wild plants sector reports, the exports of wild plants have shown positive trends during the last years, where in 2017, the total volume of sold products was 2,357 tons, with a value €6.14 million, while in 2024, the volume increased to 2,343 tons, valued at €17.6 million.

Recently, several socio-ecological changes influencing collection practices of wild plants are taking place including: climate change, shifts in land-use, un-sustainable collection and lack of generational renewal. Although Kosovo is an important center for Balkan biodiversity and the wild plants sector has significant potential due to its ecological conditions, the sustainable management of these resources remains a challenge due to a lack of integrated policies, limited knowledge among collectors about sustainable practices, overharvesting, and habitat degradation. Moreover, despite the long tradition of organic wild collection in Kosovo and its recent export growth, there remains a significant lack of research, data and expertise in this field, including the socio-ecological aspects of the sector which are still undocumented.

By filling the research gap, Sustainable management of these products and organic certification can prevent overharvesting, promote biodiversity conservation, and improve ecosystem services critical for Kosovo's forests. By documenting the economic importance of wild plants, the development of strategies and recommendations that can increase the profitability and economic sustainability of families in rural areas of Kosovo can be supported, and this can without doubt contribute to poverty reduction.

Keywords: wild plants, wild collection, rural communities, ecological changes, sustainable management, Kosovo.

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Beyond market prices: True Cost Accounting for sustainable food system transformation in the EU candidate countries

Taking into account that the transformation of food systems has become a main priority for European countries as a relevant response to emerging challenges, the EU candidate countries must prioritize this transition as it is closely linked to the alignment of their national policies with the EU normative acts. The existing market prices do not reflect the entire environmental, social, and health costs that are associated with food production and consumption, thus resulting in the occurrence of distorted signals for policy makers. In this context, the True Cost Accounting (TCA) has appeared as a framework for identification of the hidden externalities, with the intention to support the decision-makers in the area of the food value chain. The aim of the paper is to explore the potential of TCA as a tool that would facilitate the sustainable food system transformation in the EU candidate countries. The research examines the relevance of TCA by identifying the key categories of externalities that remain insufficiently incorporated into market prices. It contains a qualitative and comparative analytical approach in order to analyse the common characteristics but also specific challenges of EU candidate countries in Southeast and Eastern Europe. The findings point on the fact that the food systems in EU candidate countries generate significant hidden environmental, social and particularly health-related costs. The ongoing policy harmonization with EU standards together with the emphasis on sustainability reporting would create favourable conditions for the gradual adoption of TCA methodologies in these countries. Integration of the true cost approaches into national food and agricultural policies could strengthen the policy coherence and boost transparency in the decision-making processes. The paper concludes that TCA has a considerable potential to support the sustainable transformation of food systems in EU candidate countries by revealing the hidden costs, as beyond its analytical function, it can serve as a governance instrument that supports resilience, competitiveness, and social equity while facilitating alignment with European sustainability objectives and accession requirements.

Keywords: True Cost Accounting (TCA), sustainable food system, EU candidate countries, sustainable development, food system transformation.

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Modelling Evapotranspiration and Irrigation Demand for Crops in Mitrovica

Based on meteorological data for the period 1991–2024, the Mitrovica region has favorable conditions for agricultural production, except for the precipitation regime; therefore, irrigation is required. Given a total annual precipitation of 711 mm, effective rainfall of 627 mm, and an average evapotranspiration of 1.83 mm per day, the irrigation requirement for cabbage during the growing season is 258 mm. The efficiency of rainfall is 65.9%. With climate change, these

conditions are expected to change. In particular, shifts in precipitation timing and increased atmospheric demand may reduce the reliability of natural water availability for crops. Using forecast data from the Copernicus European Climate Data Explorer, weather conditions were modeled for the same crop. The scenario applied was the moderate RCP4.5 (Intermediate Stabilization) pathway, where total radiative forcing stabilizes at 4.5 W/m² by 2100. The modeling used maximum and minimum temperatures, relative humidity, wind velocity, solar radiation, and precipitation amounts to estimate evapotranspiration, resulting in an average of 1.87 mm per day. The results indicate that, by 2040, the total irrigation requirement will increase to 295 mm, accompanied by a decrease in rainfall efficiency to 53.9%. These findings highlight the need for proactive adaptation strategies to improve water-use efficiency and long-term agricultural sustainability. This approach can support decision-making in crop selection, the design of irrigation hydrotechnical infrastructure, and changes in farmers' planting practices.

Keywords: Rain efficiency, evapotranspiration, irrigation schedule, Climate change scenarios.

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Determination of heavy metals concentration in a poultry eggs, Reka village, Mitrovica, Kosovo

Mitrovica town is well known for the metallurgical industry, having rich mines with the Pb and Zn ore. As a consequence of mining industry, having waste dumps all around the town and industrial water discharging in a river Trepça, there are indications of the impact on a food chain. The purpose of this paper is to assess the toxic elements (As, Cd, Cr, Cu, Ni, Pb and Zn) concentration in the soil and eggs which directly affect human health in Mitrovica town's surroundings and to determine its impact and average daily intake dose (ADD) through the food chain, consuming home produced poultry eggs in village Reka, a village in a close vicinity of Mitrovica town situated between the Kelmendi industrial dump of Trepça mine and industrial park of Mitrovica waste dump {IPM} in addition to river Trepça which goes all along the village. Eggs sample were collected from three different poultry farms, and three soil samples from same place in a village. The analyses by using ICP-OES detected the concentration of heavy metals (As, Cd, Cr, Cu, Ni, Pb and Zn) by resulting As, Cr, Ni, Pb and Zn content on whole egg basis up to 3 times exceeding the permissible daily intake level, while Cu and Cd was within limits.

Keywords: Poultry Egg, Industrial waste, heavy metals, Reka village.

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Many transitional societies such as Kosovo have adopted progressive legislative structures that promote gender equality, women's participation in leadership and decision-making remains a major barrier. The research looks at organizational obstacles and enablers to women's entry to and progression to leadership roles at the local level, focusing on local government institutions, political organizations, and settings for economic decision-making. This research from an organizational science viewpoint investigates the influence of relationships, organizational cultures, institutional structures, and informal practices on women's leadership prospects and experiences.

The study is based on the concept that organizations are not gender-neutral settings and are molded by past power dynamics, cultural expectations and established patterns of conduct. Although key changes have been implemented such as the Law on Local Self Government (2008) and the Law on Gender Equality (2015), there remain gaps between written pledges and everyday organizational practices in Kosovo. This research explores the process of institutional decoupling, wherein businesses nominally adopt equality laws, but informal norms, routines and decision-making processes continue to reinforce gender inequality.

Theoretical framework builds on Institutional Theory, Acker's gendered organization theory, Ely and Meyerson's work on gender disparity in organizational practices, and Kanter's theory of organizational structure and tokenism. These approaches offer a rich analytical framework to understand how formal regulations, organizational cultures, access to opportunities, informal networks and power dynamics shape women's leadership trajectories. The research builds on current techniques by integrating individual leadership experiences with wider organizational and institutional dynamics in a post-conflict transitional setting.

Methodologically, the research employed a sequential mixed method approach. The quantitative section examines women's engagement in local leadership structures and their representation. The qualitative part examines the experiences of women leaders, policy makers, civil society actors and institutional representatives through semi-structured interviews. This combination enables for both an exploration of larger patterns of representation and a detailed knowledge of the organizational structures that enable or hinder women's empowerment.

This research is intended to contribute to the establishment of a multi-layered analytical framework that combines sociocultural norms, organizational processes and institutional structures to account for gendered leadership results. The study presents novel empirical insights on organizational change in transitional settings by framing Kosovo as a post-conflict society where processes of democracy, foreign involvement and residual patriarchal systems are at play. The study also points to a contextualized Theory of Change model with pathways to strengthening women's leadership through organizational reform, inclusive recruitment and promotion practices, mentoring and leadership development programmes and stronger accountability mechanisms.

This research not only contributes to academic knowledge but also has practical consequences for organizations, policy makers, and civil society actors that aim to promote inclusive governance and sustained institutional transformation. The study identifies hidden organizational impediments and effective enabling circumstances, providing evidence-based methods for building more equal leadership settings in Kosovo other transitional cultures experiencing comparable issues.

Keywords: Women's leadership; organizational science; gender equality; gendered organizations; institutional theory.

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Bridging Social Economy and Rural Development: Exploring European Policy Frameworks Supporting Social Economy in Rural Areas

Rural areas across Europe continue to face persistent and interconnected challenges, including demographic decline, ageing populations, labour market constraints, unequal access to essential services and increasing territorial disparities. In this context, social economy organisations (SEOs) are increasingly recognised as key actors capable of generating employment, strengthening social cohesion, delivering services of general interest and developing innovative, place-based responses to local needs.

Although the contribution of social economy organisations to rural development has received growing attention, less is known about how European policy frameworks jointly support these organisations and whether they create an enabling policy ecosystem for their development. This paper addresses this gap by investigating the intersection between rural development and social economy policies and how they recognise and support social economy organisations as strategic actors for inclusive and sustainable rural development.

Building on the Horizon Europe project ESIRA – Enhancing Social Innovation in Rural Areas, the paper combines insights from the literature on the social economy (Borzaga et al., 2020; Borzaga e Defourny, 2001; Evers and Laville, 2004), enabling ecosystems, rural development, place-based approaches and rural social innovation (Ray, 2001; Shucksmith, 2010; Moulaert et al., 2013; Bock, 2016; Bosworth et al., 2020).

Against this theoretical background, the analysis focuses on the convergence between two major European policy frameworks: the Long-Term Vision for the EU's Rural Areas (2021–2040) and its Rural Vision Action Plan (European Commission, 2021b), and the EU Social Economy Action Plan (2021–2030) (European Commission, 2021a), exploring their common objectives, governance approaches, beneficiary actors, and cross-sectoral funding mechanisms (e.g. ESF+, EAFRD, Interreg).

Empirically, the paper adopts a comparative qualitative approach based on seven national policy analyses conducted within the ESIRA project (Hungary, Italy, Lithuania, Norway, Poland, Serbia and Spain). Using a common analytical framework, it compares governance arrangements, policy objectives, funding architectures, implementation mechanisms, the role assigned to social

economy organisations and expected outcomes, identifying recurring patterns and transferable practices.

Preliminary findings reveal two predominant policy orientations. A first group primarily mobilises social economy organisations as instruments for employment creation and labour market integration, while a second recognises them as territorial partners in the co-production of essential services and place-based development strategies. More broadly, policies appear more effective when social economy is explicitly recognised, governance is territorially embedded, funding is stable and accessible, and local actors actively participate in implementation.

By examining the interaction between European policy frameworks and their national adaptations, the paper contributes to the debate on how public policies can better support social economy organisations in addressing rural challenges and argues that more coherent and integrated policy approaches are needed to strengthen the social economy as a strategic actor for inclusive, resilient and sustainable rural development.

Keywords: Social economy, rural development, policy framework.

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Understanding Innovation Ecosystems: Concepts, Governance Models, and Regional Realities

Differences in innovation performance across countries are often linked to variations in institutional setup, but the comparative research has rarely turned this idea into a practical governance classification that can be tested. This paper fills that gap by combining ideas from National Innovation Systems and innovation-ecosystems to develop a four-category governance typology: (state-led/mission-oriented, regional/multi-level similar to the EU,

entrepreneurial/market-focused, and network/grassroots). It then tests whether the governance type influences how R&D spending affects innovation performance.

The study uses data from 40 economies (Global Innovation Index 2023; GERD per capita 2022), employing OLS regression with interaction terms, one-way analysis of variance, and k-means cluster analysis, controlling for researcher density and GDP per capita.

The results show three key points: first, the cross-country GERD–GII association varies across governance modes: the interaction between GERD and regional/multi-level governance is significant, whereas in entrepreneurial systems, the conditional slope is statistically indistinguishable from zero. Second, the link between R&D and innovation tends to diminish as R&D increases, consistent with firm-level findings of decreasing returns. Third, among the 27 regional/multi-level countries, 12 are innovation leaders and 15 are catching up, suggesting this governance style offers a corridor of possibility – an institutional architecture compatible with a range of outcomes, depending on R&D intensity. Overall, governance mode explains 41% of the variation across countries, shifting the focus of innovation policy from copying high-performing models to aligning governance structures with R&D investment levels.

The findings show that R&D expenditure improves innovation performance, but its effectiveness depends on the governance and institutional context. Theoretically, this supports the view that innovation outcomes are made not only by investment levels but also by national innovation systems and complementary capacities. Practically, policymakers should not copy one governance model and instead align R&D spending with institutional quality, absorptive capacity, knowledge diffusion, and commercialization support.

The study shows originality and value in three respects: first, by providing large-scale empirical support for the NSI claim that governance configurations shape R&D productivity (extending this tradition through a testable typology drawn from innovation-ecosystem scholarship). Second, by documenting concavity in the cross-country GERD–GII relationship. Third, by introducing the corridor-of-possibility formulation as a way of characterising governance configurations whose effectiveness is contingent on complementary investment.

Keywords: Innovation ecosystems; governance typology; R&D expenditure.

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From Positive Attitudes to Participation: Consumer Perspectives on Peri-Urban Food Districts in Italy

Sustainable agri-food transitions require changes in production and governance, but also consumer participation. This is particularly relevant in peri-urban areas, where proximity to cities creates opportunities for local markets and territorial initiatives, while land-use competition, fragmented landscapes and limited recognition of local production can weaken sustainability strategies. Agrifood districts, including organic and local food districts, connect firms, institutions and citizens around shared objectives such as territorial cohesion, environmental performance, product quality and shorter value chains. They may also provide

collective tools to signal origin, quality and sustainability, and involve consumers more directly in local food systems.

Against this background, the study draws on the iSUSTlab project, Inclusive Sustainable Strategies for food products: local and organic districts as laboratories for testing multi-stakeholder participatory food systems. It explores how Italian consumers perceive peri-urban agriculture and Food Districts, and whether district-based tools can support more accessible local and sustainable consumption.

An ad hoc questionnaire investigated consumers' knowledge and perceptions of Food Districts, and the role of information, certification tools, and territorial collective labels in shaping trust, engagement, and willingness to pay. It covered food purchasing behaviour, label use, trust, product attributes, and information sources. It also collected purchase frequency of sustainable, local and organic products, perceived barriers, and perceptions of "local food", including definition, purchasing channels, and evaluations relative to conventional alternatives. A further section focused on peri-urban agriculture and Food Districts, investigating perceived benefits and risks, attitudes towards agricultural land near cities, local engagement, familiarity with Food Districts, and the role of district tools in shaping trust and participation. It also examined motivations and barriers to participation, preferences for district initiatives, collective territorial brands, and willingness to devote monetary and non-monetary resources to district-related products. Socio-demographic information was also collected.

The survey was administered via a self-administered online questionnaire to a representative sample of 998 Italian consumers. Data analysis included descriptive statistics, tests, factor analysis and inferential tools.

The findings suggest that collective district branding can signal origin, quality, and territorial identity, while labels and verification tools can reduce uncertainty. Direct contact with producers, local markets, and on-site activities may strengthen trust and make local sustainable consumption more tangible. A recognized territorial governance system further increases legitimacy. The results also indicate a relevant segment of consumers-citizens. Activating this segment through clearer communication, affordability, and simpler choice environments may help translate positive attitudes into more stable participation and sustainable consumption patterns.

Keywords: consumer behavior, food districts, peri-urban food systems, local food.

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Digital Service Ecosystems and Territorial Resilience in Italian Inner Areas: The Role of Collaborative Governance in Rural Development

Italian Inner Areas represent territories of significant environmental, cultural and productive value. Nevertheless, these areas continue to experience persistent demographic decline, population ageing and limited accessibility to essential services. In this context, the enhancement of territorial resilience has become a principal target of European and national

place-based policies. Digitalisation is recognised as a strategic lever for reducing territorial disparities. The extant literature has predominantly focused on technological infrastructure and digital connectivity, while paying limited attention to the governance mechanisms through which digital transformation can enhance the resilience of these areas. This research employs the theoretical framework of Service Ecosystems to reinterpret digitalisation as a collaborative process in which public administrations, firms and other local stakeholders integrate resources, competencies and institutional arrangements to co-create value and improve territorial resilience. In this manner, the concept of resilience can be defined as the capacity of local actors to establish collaborative governance arrangements capable of supporting the design and delivery of innovative, accessible and integrated services.

The objective of the present study is to investigate the factors influencing stakeholders' willingness to participate in digitally enabled service ecosystems within Italian Inner Areas. The empirical analysis is focused on the Monti Dauni, the largest Inner Area in the Apulia Region, characterised by significant territorial fragmentation and structural constraints affecting the provision of essential services. The research is grounded in a Discrete Choice Experiment (DCE), a methodological approach that involves the administration of a survey to public administrations and firms in the Monti Dauni area. The experimental design utilises a multifaceted evaluation of stakeholders' preferences for alternative configurations of territorial digital service ecosystems, encompassing attributes that delineate governance arrangements, shared digital services, technological infrastructure, technical support and training,

integration with public services, and financial incentive schemes. The DCE enables the identification of the trade-off's stakeholders are willing to make among different ecosystem configurations and provides insights into the institutional conditions that encourage participation in collaborative digital initiatives. In conclusion, the research reconceptualises the definition of digitalisation as a purely technological transition, arguing that the resilience of rural development is contingent on the capacity of local actors to establish collaborative service ecosystems supported by effective governance mechanisms. This study contributes to the emerging debate on rural resilience by establishing a link between digital transformation, collaborative governance and territorial resilience. These findings provide useful guidance for designing place-based policies capable of strengthening collaborative governance and enhancing the resilience of rural territories.

Keywords: Inner Areas, Territorial resilience, Service ecosystems, Digitalisation, Rural development.

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Irrigation governance for resilient rural areas and sustainable food systems: an integrated analysis of the Capitanata district

Water is a strategic input for Italian agriculture and a precondition for the resilience of rural areas in Southern Italy, where infrastructural weaknesses and the growing frequency of climate-driven extremes are eroding the equitable and sustainable availability of the resource (Netti et al., 2024). In Apulia the gap between theoretical and effective water availability is, above all,

structural: ageing or unfinished networks, unequal access, and climate pressure that operates as a long-term exogenous constraint (Ellena et al., 2025). Because a substantial share of the value of Italy's agri-food sector is tied to irrigated production, the transition towards a sustainable food system depends on how this resource is governed (Buttinelli et al., 2024). In Italy, water governance in agriculture is entrusted to Land Reclamation and Irrigation Consortia, public economic entities responsible for managing irrigation and multifunctional infrastructure, allocating water resources, and safeguarding the rural landscape.

Their role is being reshaped by the convergence of European and national policy frameworks, including the NRPP, the 2023-2027 CAP, and the NPIISWS, as well as by the ongoing debate on the post-2027 CAP and the 2028-2034 Multiannual Financial Framework. Research has primarily examined infrastructure performance and techno-economic efficiency while also investigating the perceptual dimensions underpinning modernization: how farmers perceive the services provided, the extent to which they trust the Consortia, and how they recognize their public and multifunctional role.

Building on this gap, the study develops an integrated analysis of the irrigation governance system of the Capitanata district, among the recipients of NRRP and NPIISWS modernisation funding, whose agricultural economy is centred on labour-intensive, high-value crops, processing tomatoes, table and wine grapes, exposed to severe drought, ageing networks and unequal access (Sardaro et al., 2024; Perelli et al., 2024). The research question is how stable and reliable access to water can be ensured for farms in the district, so as to strengthen the resilience of rural areas, the sustainability of the food system and, through the viability of agriculture, the conditions for population retention and generational renewal, given the combined pressure of structural constraints, climate change and an evolving European policy framework.

The empirical work, currently in its design phase, adopts a mixed-methods approach in three sequential steps. The first combines a systematic review of the literature on consortia-based water governance, participatory management and Q-methodology applications with a territorial profile of the Capitanata area and a synthesis of the regulatory framework. The second applies Q-methodology, a perception-based approach for the structured analysis of subjectivity (D'Elia & Piccolo, 2005), recently used in participatory irrigation management (Kimbowa et al., 2025), to elicit farmers' viewpoints on perceived service quality, trust in the consortia, the sense of belonging to the agricultural community and the recognition of the consortia's multifunctional public role, through the construction of the concourse, the Q-set, a P-set varied by cropping systems and farm size, the Q-sort and by-person factor analysis. The third integrates these outputs into a SWOT analysis of the provincial consortium system, aimed at informing operational governance recommendations. No empirical data have yet been collected.

The expected findings may also contribute to the debate on rural policy along the conference's main thematic axes. With regard to European integration and policy frameworks, the study aims to provide elements for discussing how infrastructure investments supported by the policy can be accompanied by governance arrangements capable of strengthening farmer involvement and the legitimacy of the institutions responsible for managing water resources, thereby offering insights for the debate on the post-2027 CAP and the next Multiannual Financial Framework. In relation to the Rural Pact, the analysis considers reliable access to water as a relevant condition for sustaining the vitality of high-value agriculture and, consequently, opportunities for population retention and generational renewal in rural communities. Finally, with regard to the transition towards a sustainable food system, the research aims to highlight the role that equitable and resilient water governance can play in supporting the productive base,

counteracting soil degradation and desertification in the Tavoliere, and strengthening food security (Sardaro & La Sala, 2020). From this perspective, Land Reclamation and Irrigation Consortia are analysed as institutional actors potentially central to connecting infrastructure investment, governance innovation, and a just transition towards more resilient rural areas.

Keywords: Irrigation governance; Land Reclamation and Irrigation Consortia; Rural resilience; Sustainable food systems; Agricultural water governance; Rural Pact; Q-Methodology; Water security.

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Enforcement and livelihood strategy choices: How rural households respond to anti-drug policy in Afghanistan

Background: Implemented without viable alternative livelihood programs, the 2022 Taliban ban on opium poppy cultivation in Afghanistan led to a sharp reduction in opium poppy cultivation, encouraging shifts in livelihood strategies and raising serious concerns about households' well-being. To guide evidence-based policy interventions, this study analyses how rural households choose among alternative livelihood strategies in response to opium poppy eradication efforts.

Method: Drawing on household-level survey data from 471 households collected in Eastern Afghanistan between November 2024 and January 2025, we employ a multinomial logit model to investigate the role of eradication experiences in the choice of alternative rural livelihood strategies.

Results: Evidence indicates that households with experience of eradication are less likely to migrate, engage in off-farm work or cultivate legal crops, suggesting that eradication policies may constrain livelihood diversification and reinforce dependence on illegal crop cultivation. Similarly, strong ties to authority are associated with a lower likelihood of migration, off-farm work, and legal farming, which may encourage illegal cultivation to ensure household survival under conditions of uncertainty, specifically where state capacity is limited and regulation is selective.

In contrast, agricultural support from national and international organisations reduces the likelihood of continued engagement in illegal crops and increases reliance on legal agriculture. Better access to land, trust in neighbours, and agricultural training also increased dependence on legal cultivation, although these effects vary across livelihood strategies. Alternatively, access to underground black markets undermines the transition to legal agriculture by making illegal crop production more attractive.

Conclusion: Overall, the results suggest that eradication, close ties with the government, and resource scarcity merely reduce the likelihood of legal livelihood alternatives, highlighting the need for integrated, development-focused policy responses.

Keywords: Livelihood strategies; Rural development; Rural livelihoods; Afghanistan; Policy enforcement; Alternative development; Rural household sustainability.

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Public transport accessibility and rural left-behindness: case study from Slovakia

At the end of 2025, (only) passenger rail transport on the Zvolen-Šahy line in central Slovakia has been closed. In the official statement of the decision-makers (Železničná spoločnosť Slovensko as a national carrier for passenger rail transport in Slovakia, and the Ministry of Transport and Construction of the Slovak Republic), it has been declared that the main reason for such radical change is the economic inefficiency of its operation, which has been caused by low passenger demand. The line passes through the territory of the predominantly rural Krupina district, which was also included among the priority (new term for the least developed) districts of Slovakia and thus has the opportunity to draw financial support to reduce spatial disparities and create more balanced spatial development. The closure of passenger rail transport, defined as a problem between the state and regional self-government, has been viewed negatively by representatives of all 36 municipalities in the Krupina district. They officially criticised the top-down decision to close passenger rail transport, emphasising that it will further deepen the district's left-behindness and the "public transport-related social exclusion" of local people.

The aim of the study is to analyse public transport accessibility between urban and rural areas in the Krupina district (Slovakia) to identify relatively isolated rural municipalities where inhabitants are confronted with insufficient public transport availability in their urban centres of economic activity, education, and health services. The conflict lies between the economic efficiency and spatial equity of the organisation of public transport in the predominantly rural Krupina district, which is characterised by the prevalence of very small rural villages and an extremely low population density. Rural public transport (service of the general interest) on such territories is generally unprofitable, and therefore, the question of its economic support as a partial way from left-behindness of places and people is still open.

Keywords: public transport accessibility, rural left-behindness, economic efficiency versus spatial equity, Slovakia.

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Romania's Road to an Inclusive National Strategic Plan 2023-27 – Challenges and Progress

The present study offers a comprehensive qualitative assessment of the drafting process for Romania's National Strategic Plan (NSP) under the 2023-2027 Common Agricultural Policy (CAP) framework. The CAP reform for this period marked a paradigm shift, granting member states greater subsidiarity and flexibility by transferring significant responsibilities for policy intervention design and implementation from the EU to the national level. This shift was operationalized through national CAP Strategic Plans, which required each member state to tailor interventions to its unique territorial, socio-economic, and environmental contexts while aligning with overarching EU objectives.

The NSP drafting process in Romania followed the regulated steps outlined in EU Regulation 2021/2115, including socio-economic and context analysis, SWOT analysis, needs assessment, intervention design, target-setting, financial allocation, ex-ante and strategic environmental assessments, and stakeholder consultation. These steps aimed to ensure a robust intervention logic for achieving each specific objective. The process was further shaped by Romania's broader governance structures and socio-institutional realities, which influenced both the technical and participatory dimensions of policy development.

This study draws on qualitative methodologies, including media content analysis, interviews, and focus groups with key stakeholders such as farmers, environmental NGOs, payment agencies, rural authorities, and PAC auditors. The research was conducted by the Institute of Agricultural Economics of the Romanian Academy within the Horizon Europe Tools4CAP project. The methodological approach targeted two core aspects: (1) challenges perceived by stakeholders as negatively affecting the NSP drafting process under the new delivery model, and (2) advantages brought by the participatory approach to NSP development.

The findings reveal several significant challenges. First, the integration of Pillar I (direct payments) and Pillar II (rural development) into a single strategic plan posed difficulties, particularly due to the lack of prior programming experience in Pillar I. The absence of comprehensive historical data and experience further complicated planning, especially for eco-schemes. Technical and procedural hurdles, such as the simultaneous execution of ex-ante evaluation with NSP drafting and outdated environmental assessment legislation, led to delays and compliance issues. Budgetary constraints made it difficult to address the diverse needs of both agriculture and rural development, requiring complex coordination across government departments. The sequential steps mandated by the EU were often implemented in parallel due to time constraints, and target-setting was hindered by insufficient data and forecasting methodologies.

Institutional and political obstacles also emerged. Political partisanship, path dependency, and inter-ministerial divergences—particularly between the Ministry of Agriculture and Rural Development and both farmer associations and the Ministry of Environment—created barriers

to evidence-based policy-making. Multi-level governance challenges affected information flows and decision-making inclusivity, not only within Romania but also in interactions with the EU.

The participatory process itself faced hurdles. Small and medium-sized farms were underrepresented in public consultations due to weak organizational capacity and limited negotiation skills. The academic sector's low involvement created structural imbalances. Stakeholder feedback highlighted the need for more relevant working groups, enhanced statistical analysis capabilities, and improved organizational skills among public officials. The process demanded significant organizational effort and new competencies, pointing to the need for capacity-building and cross-country experience exchange.

Despite these challenges, the participatory approach generated substantial benefits. Stakeholder engagement led to increased trust among beneficiaries, as their input was actively sought and integrated throughout the NSP design, from SWOT analysis to intervention planning. Regular public consultations—held three to four times per year across regions—fostered transparency, constructive dialogue, and greater responsiveness to farmers' real needs. The participatory process improved transparency, with timely access to documents and more effective communication between the management authority and stakeholders. Participation in the Monitoring Committee facilitated direct exchanges of experience and expertise, ensuring that field realities and diverse perspectives informed decision-making.

In conclusion, the NSP 2023-2027 drafting process in Romania under the new CAP delivery model was characterized by both complexity and notable advances. While structural and procedural challenges persisted—such as data limitations, institutional obstacles, and underrepresentation of key stakeholder groups—the participatory, flexible framework fostered more adaptive, responsive policy-making. The process underscored the need for further institutional capacity-building, enhanced data analysis tools, and improved mechanisms for inclusive public consultation. Addressing these needs will be essential for ensuring that future public interventions are better targeted to the realities of Romania's rural and agricultural sectors and are aligned with long-term sustainability objectives.

Acknowledgement:

This paper has received funding from Tools4CAP Horizon project from the European Union's Horizon Europe Research and Innovation Programme under Grant Agreement No. 101086311. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Research Executive Agency (REA). Neither the European Union nor the granting authority can be held responsible for them.

Keywords: CAP, New Delivery Model, qualitative analysis, Romania.

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How participatory is the CAP in Poland? Role of the Polish CSP 2023-2027 Monitoring Committee

Participatory policy processes are strongly encouraged and, in many cases, obligatory. In the European Union this obligation is based on the European code of conduct on partnership (Commission Delegated Regulation (EU) No 240/2014). It applies also to the Common Agricultural Policy.

In the programming period 2023-2027 the CAP regulation (Regulation (EU) No 2021/2115) focuses the principle of partnership on the monitoring committees. These bodies were present in the previous programming periods, but their scope of activities was limited to Rural Development Programmes (RDPs), thus Pillar 2 measures. With the new delivery model (NDM) and introduction of the CAP strategic plans (CSPs), the monitoring committees cope with the whole spectrum of the CAP measures.

The aim of the presentation is to present the legal scope of CSP monitoring committees and their actual role in the implementation of CAP at the EU member state level on the example of Poland and to show the potential for a greater role shaping the CSPs using a wide range of policy support tools identified within the EU Horizon Europe project Tools4CAP.

The study is based on the official documentation on the activities of the Polish CSP 2023-2027 including the member list, meeting protocols and committee resolutions. This data is supported by semi-structural interviews with a sample of committee members.

The results of the study show that despite the great participatory potential of the Polish CSP monitoring committee, given its diverse composition, the activities of this body so far do not exceed the level of accepting the proposals for CSP modifications prepared by the Polish Ministry of Agriculture and Rural Development. The study recommendations show which policy support tools could be used to increase the role of the monitoring committee and thus ensure a higher legitimisation of the CAP implementation process.

Keywords: CAP Strategic Plan 2023-2027; monitoring committee; participatory policy process; Poland.

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Territorial Inequalities, Rural Resilience and Wellbeing in Peripheral Regions

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Plant Growth-Promoting Rhizobacteria (PGPR) as Drivers of Rural Resilience and Sustainable Food Systems

The resilience of rural areas and the sustainability of food systems are increasingly dependent on innovative bio-based solutions that reduce reliance on chemical inputs while enhancing soil fertility and crop productivity. Plant growth-promoting rhizobacteria (PGPR) represent one of the most promising strategies to achieve these goals. PGPR colonize the rhizosphere and root tissues, exerting beneficial effects through direct mechanisms—such as nitrogen fixation, phosphorus and potassium solubilization, siderophore production, and phytohormone regulation—and indirect mechanisms including biocontrol of pathogens, stress tolerance, and induced systemic resistance.

Recent reviews highlight that PGPR-based biofertilizers can significantly improve nutrient acquisition efficiency, reduce environmental contamination, and strengthen crop resilience under abiotic stresses such as salinity, drought, and heavy metal toxicity. For instance, strains of *Azospirillum*, *Rhizobium*, *Bacillus*, and *Pseudomonas* have demonstrated the ability to enhance root architecture, increase nutrient uptake, and stimulate plant immunity. Moreover, PGPR-mediated production of indole-3-acetic acid (IAA), gibberellins, and cytokinins directly modulates root system development, leading to improved water and nutrient absorption.

Beyond nutrient dynamics, PGPR contribute to rural resilience by reducing dependence on synthetic fertilizers and pesticides, thereby lowering production costs and mitigating environmental degradation. Their role in mobilizing “legacy phosphorus” and improving soil structure through exopolysaccharide production further supports sustainable land management. Importantly, PGPR-based biofertilizers align with One Health principles by promoting eco-friendly practices that benefit human, animal, and environmental health.

This contribution synthesizes evidence from recent studies (2021–2025) on PGPR colonization, bioinoculant formulation, and field application. It identifies three strategic pathways for embedding PGPR into rural development policies:

1. Biofertilizer integration – mainstreaming PGPR inoculants into agricultural subsidy schemes to reduce chemical inputs.
2. Microbial cooperatives – fostering farmer-led networks for local production and distribution of PGPR formulations.
3. Smart agriculture applications – leveraging omics and synthetic microbial communities (SynComs) to design next-generation PGPR consortia with multifarious traits.

The poster version will visualize these pathways through diagrams of PGPR mechanisms (nutrient solubilization, hormone regulation, stress tolerance), case studies of successful inoculations, and comparative charts of chemical vs. biological inputs. The full paper will expand on methodological approaches, including microbiome engineering, host-mediated microbiome selection, and field trials in Southeastern Europe.

Ultimately, PGPR represent a cornerstone of resilient rural areas and sustainable food systems. Their integration into governance and policy frameworks can transform structural challenges into opportunities for innovation, sustainability, and rural prosperity.

Keywords: GPR, biofertilizers, rural resilience, sustainable food systems, nutrient solubilization, induced systemic resistance, One Health.

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Towards EDUPACK: A Standardised Framework for Rural Entrepreneurship and Innovation Education

Entrepreneurship and innovation (E&I) education in higher education institutions (HEIs) has traditionally been urban-centric, overlooking the specific needs of rural areas. Yet rural development requires a distinct set of competences tailored to place-based resources, community engagement, and local innovation potential. The Erasmus+ project ENGINE (Entrepreneurial rural Growth through exchanging of Good practices wIthIn Network Education) addresses this gap by developing EDUPACK, an educational tool aimed at equipping students with competences for sustainable rural development. HEIs from Italy, Poland, Portugal, and Germany conducted a comparative review of nineteen E&I study programmes at Bachelor's and Master's level. Existing curricula were analysed to identify competence gaps and define standardised curricular content, resulting in twenty topics grouped into five thematic blocks: (A) Foundations of Rural E&I; (B) E&I Ecosystems and Rural Collaboration; (C) Management, Finance and Marketing for Rural Initiatives; (D) Digitalisation for Rural Transformation; (E) Sustainability, Quality and Social Innovation. In parallel, ten student competences were identified across knowledge, skills and attitudes, covering areas such as entrepreneurship, territorial development, sustainability, digitalisation, and management. Finally, stakeholders were identified through the Quadruple Helix framework (science & education; business & economy; public administration; civil society) and their expertise mapped against the thematic blocks and the student competence profile. Taken together, the findings provide a standardised curricular structure, a student competence profile, and a stakeholder framework, forming a harmonised and transferable basis for rural E&I education across European HEIs.

Acknowledgments:

Erasmus+ project "ENGINE" (Entrepreneurial rural Growth through exchanging of Good practices wIthIn Network Education), co-funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or Fundacja Rozwoju Systemu Edukacji. Neither the European Union nor the granting authority can be held responsible for them.

Keywords: ENGINE; EDUPACK; Higher education; Entrepreneurship education; Rural innovation; Erasmus+; Rural entrepreneurship.

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Monitoring of agricultural biomass resources as a tool to strengthen the resilience of rural areas to energy and food crises in Poland

Building the resilience of rural areas to energy and food crises requires not only new technologies, but above all reliable information systems that support evidence based decision making at farm, local and national level. In Poland, an important step in this direction is the development of a national system for monitoring agricultural biomass resources, which provides spatially explicit data on the quantity, structure and dynamics of biomass originating from crop and livestock production. The aim of this work was to discuss how such a monitoring system can be used as a practical tool to enhance the energy and food resilience of rural areas.

The main elements of the biomass monitoring system are collected and presented in an online geoportal, which provides results at various territorial levels, down to the level of individual municipalities. The geoportal contains both the calculated theoretical and technical potential of agricultural biomass, such as straw, biomass from grasslands, and residues from animal production, including solid manure, slurry and liquid manure. In the calculations, priority needs related to food production, animal feeding and maintaining soil fertility are taken into account. The distinction between the “total resource” and the “sustainable surplus” is crucial to avoid competition between the use of biomass for energy purposes and for food production.

Biomass monitoring can be used to strengthen energy resilience. By identifying stable and spatially concentrated biomass surpluses, the system can support the siting and sizing of small scale bioenergy installations (biogas, biomethane, heat from biomass) and the development of energy communities in rural areas. This helps to reduce dependence on external energy supplies and to mitigate the effects of price shocks and supply disruptions. At the same time, linking biomass data with existing systems for monitoring drought, yields and soils creates an integrated information base that supports food security: under climatic or market stress, the balance between the use of biomass for energy and for food related purposes can be recalibrated on the basis of up to date data.

Keywords: agricultural biomass monitoring, geoportal, sustainable surplus, rural energy resilience, food security.

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Policy instruments for the protection of agricultural soils

Land use has a significant impact on greenhouse gas balance and biodiversity, therefore appropriate political and economic incentives are essential to achieving climate and sustainable development goals.

The research presented in this article is the result of work conducted as part of the HORIZON EUROPE project: Towards a strategy for sustainable land use in the context of climate change and biodiversity challenges in Europe (LAND USE). The aim of the study was to develop a comprehensive set of criteria for assessing policy instruments influencing decisions regarding sustainable soil management in agriculture, with particular emphasis on climate change mitigation and biodiversity protection.

The identified instruments were classified using the OECD (2020) framework for sustainable land-use tools, encompassing four main categories: regulatory, economic, informational and other voluntary, and other instruments. Subcategories were also distinguished within each group to capture their diversity and specific mechanisms. Regulatory tools such as Local Spatial Development Plans were examined, emphasizing their contribution to land and forest protection by regulating land designation and use. Economic incentives like eco-schemes, subsidies for organic farming, and fees for land exclusion were discussed, demonstrating their significance in encouraging environmentally friendly agricultural practices. Voluntary instruments, including eco-labelling and certification programs, were also analysed for their role in raising ecological awareness among stakeholders.

Policy instruments and incentives allow countries to influence the decisions of landowners and users to reduce emissions and minimise negative environmental impacts, and to encourage them to undertake actions that generate a positive impact on climate change.

Keywords: incentive instruments, land use, soil protection.

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Beyond Infrastructure: Linking Human Activation and Institutional Opportunity for Rural Regeneration and Food System Resilience

Across Europe, governments have invested heavily in rural development through infrastructure, public services, and institutional support. These investments have improved living standards and created conditions for economic activity. Yet infrastructure alone does not create development; it creates the possibility of development. Realizing that possibility depends on people who can recognize, pursue, and transform opportunity into productive enterprise.

Despite decades of subsidies, grants, and infrastructure investment, many rural regions across Europe continue to experience depopulation, generational outmigration, and declining productive capacity. The persistence of these trends suggests that prevailing explanations of rural decline may be incomplete. Meanwhile, the advantages of urban living have weakened for many households as housing costs, commuting burdens, and stress increasingly offset wage premiums, while rural living offers benefits in health, child development, and quality of life. Despite these advantages, many people who would choose rural life are unable to act on that choice because the institutional structures that support viable rural livelihoods are absent, and the human development systems needed to activate local enterprise remain underdeveloped. The coexistence of persistent rural decline and latent demand for rural living suggests an

overlooked challenge: the need to develop both human capacity and the structural conditions necessary for sustainable regeneration.

This paper asks: what combination of human development methodology and institutional design can move rural communities beyond subsidy dependence toward self-sustaining regeneration, and what are the implications for food systems that depend on the small- and medium-scale producers increasingly disappearing from rural communities?

Rural regeneration depends not only on creating opportunity but also on enabling people to realize it. The paper proposes a humanistic approach to rural policy grounded in the integration of two complementary forms of investment: human activation and institutional opportunity. Third Force Economics (TFE), together with its implementation methodology, Enterprise Facilitation (EF), provides the human development framework for activating local potential and entrepreneurial capacity. The Rural Economy Compact (REC) provides the institutional architecture through which human capacities can be translated into sustainable rural regeneration and food system resilience. By aligning human development with institutional design, the integrated framework offers a conceptual model for sustainable rural development, linking the capacity to create opportunity with the conditions necessary to sustain it.

The REC addresses the institutional dimension of this challenge through six interdependent foundations designed to function as a unified system: Anchor-Commit, which secures multi-year commitments from anchor institutions; Production Credits, which make local output visible to financing systems; Housing Conversion, which expands worker and entrepreneur housing while limiting speculation; Infrastructure Bond, which transforms infrastructure commitments into enforceable delivery mechanisms; Rural Finance Bond, which provides continuity beyond political cycles; and iTRUST (Integrated Transport Regional Utilization System Theory), a community-governed multimodal logistics system designed to improve market access and competitiveness.

While the REC establishes conditions for regeneration, TFE provides the human development framework through which those conditions can be activated. TFE positions the entrepreneur as a catalyst for community development, grounded in belonging, contribution, self-determination, creativity, and risk-taking. EF operationalizes these principles through listening, relationship building, and support for locally rooted enterprises. Drawing on four decades of practice across hundreds of communities, EF is a responsive, bottom-up methodology focused on identifying and supporting entrepreneurial potential already present within communities. Within the integrated framework, EF provides the human activation component, linking local initiative and entrepreneurial capacity to the institutional conditions created through the REC.

The central thesis is that these two forms of investment are complementary and mutually reinforcing, linking human capacity with institutional opportunity in a more sustainable framework for rural regeneration. Human activation without structural inclusion leaves motivated entrepreneurs excluded from access to finance, housing, and markets. Conversely, institutional reform without human activation leaves mechanisms underutilized. Ultimately, sustainable development depends on communities recognizing and exercising their own agency.

The paper develops its argument through comparative analysis of EU rural development instruments and evidence drawn from EF practice across multiple national contexts. It concludes by outlining implementation considerations for the 2028–2034 Multiannual Financial Framework, including candidate countries, where emerging rural institutional architecture offers a unique opportunity to design integrated systems from the outset. By aligning human

activation with institutional opportunity, the framework offers a pathway toward more resilient rural communities and food systems.

Keywords: rural regeneration; sustainable food systems; human activation; endogenous development; enterprise facilitation; generational renewal; rural resilience.

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Living Labs in the Context of Rural Innovation: A Case Study from the Nemesis Project

Living Labs (LLs) have gained traction as a model for rural innovation, positioned as open, real-world settings in which research, practice and local knowledge can be co-produced. Yet how such labs actually function as innovation instruments – what starting conditions they begin from, and how far differing local contexts shape the solutions they arrive at – remains under-examined in the rural development literature. This contribution addresses that gap through a case study of the Horizon Europe project Nemesis, which establishes five Living Labs across contrasting rural and agro-ecological contexts (Cyprus, France, Italy, the Tunisia-Algeria cross-border area, and Spain) around the shared challenge of soil health and desertification.

Central to Nemesis' approach is a structured assessment of each Living Lab's maturity level, conducted at project start (t0) using a Living Lab Readiness framework that evaluates organisational structure, existing stakeholder engagement, innovation adoption, resource management and infrastructure. This baseline is paired with long-term KPI targets set individually for each LL, making explicit the very different points from which the five labs set out and the different distances each must travel. The paper examines how this maturity baseline interacts with the parallel process of building inclusive, multi-actor stakeholder engagement around each lab, and traces the early practical experience of establishing this engagement during the project's first year.

Drawing on this early implementation experience, the contribution reflects on how uneven starting conditions – in institutional capacity, existing stakeholder networks, and prior innovation activity – appear to shape not only the pace but the character of the solutions each Living Lab moves toward, complicating any assumption that a single innovation model can be applied uniformly across sites. Situating Nemesis within the broader Living Lab literature, the paper argues that understanding rural innovation through Living Labs requires attending explicitly to these differing starting points and contexts, rather than treating Living Labs as a uniform instrument whose outcomes can be compared independently of where each one began.

Keywords: Living Labs; rural innovation; maturity assessment; local context; soil health, Soil Mission.

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The bioeconomy: Between regulations and practice—how to better support technologies based on bio-resources

BbioNets (Boosting the Adoption of Bio-Based Technologies in Agriculture and Forestry through Thematic Networks) is a Horizon Europe project aimed at accelerating the uptake of bio-based technologies (BBTs) in agriculture and forestry. Through a multi-actor approach involving farmers, foresters, researchers, advisors, industry representatives, and policymakers, the project facilitates knowledge exchange and identifies barriers and opportunities for BBT implementation across Europe.

The Polish assessment developed within the BbioNets deliverable Policy Recommendations and Replication is based on project deliverables, stakeholder consultations, and analytical outputs generated within the project. It draws on regional needs and challenges assessments, studies on regional dynamics, Forest and Agriculture Networks (FANs) consultations, and expert inputs. SWA (Strong Weak Ambiguous) and DYN (regional DYNamics matrix) frameworks developed under Task 2.4 were applied to identify key strengths, weaknesses, and priority intervention areas, enabling an assessment of the policy and institutional environment for bio-based technologies in Poland.

The results indicate a significant gap between the maturity of bioeconomy policy frameworks at the European Union level and their implementation in Poland. The EU has established an integrated governance system combining the Bioeconomy Strategy, the European Green Deal, circular economy policies, and dedicated funding instruments, supporting innovation projects, demonstration activities, and the development of bio-based value chains, thereby enabling the transition from research to market deployment.

In contrast, Poland remains at an earlier stage of bioeconomy development. Despite strong biomass potential, scientific capacity, and increasing stakeholder engagement, an operational national bioeconomy strategy and coherent implementation framework are still lacking. Key barriers include fragmented policy instruments, limited intersectoral coordination, and constrained access to financing for large-scale deployment of BBTs. Identified key priority intervention areas, including the development of a national bioeconomy strategy, enhanced cross-sectoral policy integration, and the strengthening of advisory and support systems.

Based on document and stakeholder analysis carried out within the BbioNets project, the study identifies a gap between EU bioeconomy policy ambitions and the practical deployment of BBTs in Poland. The findings provide a basis for policy recommendations supporting the further development and refinement of EU bioeconomy policy frameworks.

Keywords: bioeconomy policy; policy implementation; AKIS; knowledge transfer; policy integration.

Beata Jurga¹, Fabian Frick², Amer Ait Sldhoum³, Alan O'Riordan⁴, Behlül Can Şengül⁵¹ Institute of Soil Science and Plant Cultivation – State Research Institute (IUNG-PIB), Poland² Technical University of Munich Agricultural Production and Resource Economics, Germany³ Natural Resources Institute, Finland⁴ Tyndall National Institute, Ireland⁵ MOVE ON Technology Inc., TurkeyEmail address: bjurga@iung.pulawy.pl**Soil sensors and artificial intelligence for more precise fertilisation:
Can we fertilise more efficiently and with less impact on the environment?**

Improving nutrient management is a central challenge for sustainable agriculture and resilient food systems. Fertilisation must sustain crop productivity while avoiding inefficient or poorly timed applications that increase costs and nutrient losses. Precision agriculture can support more spatially and temporally targeted management and reduce unnecessary inputs (Gebbers & Adamchuk, 2010; Finger et al., 2019). This is particularly important for nitrogen, for which low crop recovery is associated with both economic losses and environmental pollution (Fageria & Baligar, 2005).

This contribution presents INSPIRE – Integrating high-resolution sensors and AI decision tools for enhancing agricultural efficiency, which develops and tests an integrated fertiliser-management approach based on in-soil nutrient sensors, satellite observations and artificial-intelligence-supported decision tools. The project asks whether information collected directly from the soil, combined with remote-sensing and crop data, can improve the matching of fertiliser applications to crop needs, increase nutrient use efficiency (NUE) and reduce nutrient losses. The approach builds on developments in proximal soil sensing, remote sensing and machine learning for agriculture (Adamchuk et al., 2004; Mulla, 2013; Liakos et al., 2018).

The methodology combines field experiments, laboratory analyses, sensor measurements, satellite monitoring and agronomic assessment. Trials in Poland, Ireland and Turkey compare three strategies: conventional fertilisation based on local traditional planning; precision agriculture using digital and satellite information on crop conditions; and the INSPIRE approach, which additionally integrates data from sensors placed directly in the soil. Sensor measurements are validated against laboratory analyses, as direct in-field determination of plant-available nutrients remains technically demanding and requires robust calibration and validation (Najdenko et al., 2024).

IUNG-PIB leads Work Package 4, which evaluates INSPIRE technology under field conditions. The Polish trial is conducted at the IUNG-PIB Agricultural Experimental Station in Grabów nad Wisłą. The assessment includes concentrations and stocks of nitrogen, phosphorus and potassium together with soil organic matter. Sensor measurements are compared with laboratory analyses, field observations, crop yields and satellite data, while nutrient balances and NUE are used to assess fertilisation efficiency and potential environmental benefits. Combining proximal and remote sensing is expected to provide a more complete picture of within-field variability for site-specific management (Mulla, 2013; Finger et al., 2019).

INSPIRE also considers the conditions for practical adoption. Digital fertilisation tools can contribute to sustainable agriculture only if they are reliable, affordable, understandable and compatible with everyday farm management. The project therefore investigates farmers' perceptions of sensors and decision-support systems, including drivers and barriers to adoption, economic viability and attitudes towards agricultural data sharing. Surveys, interviews, focus

groups and stakeholder workshops connect technological development with farmers' practical needs. This is consistent with research showing that digital agriculture involves not only technology, but also skills, advisory systems, data governance and institutional change (Klerkx et al., 2019).

The contribution argues that soil sensing and artificial intelligence are most valuable when they enable a transition from general fertilisation recommendations towards more evidence-based and site-specific nutrient management. Better integration of soil, crop and satellite information may help farmers use inputs more efficiently while maintaining production and reducing environmental pressures. From the perspective of rural development and sustainable food systems, INSPIRE therefore provides a practical framework for combining sensing, Earth observation, AI and farmer-centred implementation pathways to support more precise and environmentally responsible fertilisation.

Keywords: precision fertilisation; soil sensors; artificial intelligence; Nutrient Use Efficiency; precision agriculture; nutrient management; sustainable agriculture; digital agriculture.

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BIOEASTWIDE as a platform for strengthening bioeconomy R&I cooperation between EU Member States and candidate countries in the context of MFF 2028–2034

The next EU Multiannual Financial Framework 2028–2034 will be shaped in a period of overlapping structural challenges: climate change, geopolitical instability, food system vulnerability, uneven innovation capacities and the continued need for closer integration of EU candidate and neighbouring countries. In this context, rural development can no longer be

treated only as a sectoral or compensatory policy field. It increasingly requires integrated governance frameworks linking agriculture, bioeconomy, research and innovation, regional development, natural resource management and industrial transformation. This direction is consistent with the updated EU Bioeconomy Strategy, which frames the bioeconomy as a cross-sectoral policy area connecting economic development, environmental sustainability and societal needs (European Commission, 2025), as well as with the BIOEAST Strategic Research and Innovation Agenda, which highlights the specific needs and potential of Central and Eastern European countries in sustainable bioeconomy transitions (BIOEAST, 2022). This poster presents the newly launched BIOEASTWIDE project, a Horizon Europe Coordination and Support Action designed to strengthen the bioeconomy research and innovation ecosystem across the BIOEAST macro-region and to build structured cooperation with widening and candidate countries, including Ukraine, Moldova and the Western Balkans. The project responds to the need for stronger alignment between national bioeconomy agendas, EU-level priorities, funding instruments and territorial development needs. Previous work under the BIOEAST initiative has shown that national bioeconomy pathways in Central and Eastern Europe are diverse, unevenly institutionalised and often dependent on stronger coordination between ministries, research organisations, funding agencies and regional actors (BIOEAST, 2023). At the same time, recent literature underlines that translating EU bioeconomy policy into national implementation requires place-sensitive governance, institutional learning and better alignment between policy objectives and implementation capacities (Faulkner, Murphy, & Scott, 2024).

BIOEASTWIDE combines several complementary lines of action. First, it will map bioeconomy R&I ecosystems, institutional capacities, funding structures, stakeholder networks, technological readiness and innovation opportunities across participating countries. This is particularly important because bioeconomy potential is strongly territorial and depends on the spatial distribution of biomass, infrastructure, knowledge networks and industrial capacities (Hamelin et al., 2019). Second, the project will support the co-development of a roadmap, scope and governance framework for a future BIOEASTWIDE Partnership, engaging ministries, research organisations, national funding agencies, industry, civil society and regional actors. Third, it will establish dedicated mechanisms for widening cooperation, including a Widening Group, national bioeconomy concept papers, policy dialogues and practical guidance for developing national bioeconomy hubs in candidate and neighbouring countries. Fourth, capacity-building activities will strengthen the ability of national hubs, thematic working groups and funding organisations to design, coordinate and implement bioeconomy-related R&I actions.

The poster argues that BIOEASTWIDE can contribute to rural resilience in three ways: (1) by improving evidence-based governance of bioeconomy policies; (2) by linking EU integration processes with practical cooperation in research, innovation and funding; and by (3) positioning rural areas as active spaces of sustainable biomass valorisation, circular value chains and place-based innovation. In relation to MFF 2028–2034, the project may provide useful lessons on how future EU funding frameworks can better support cross-border cooperation, candidate country integration and long-term structural transformation of rural regions.

Keywords: BIOEASTWIDE; bioeconomy; rural development; EU integration; MFF 2028–2034; candidate countries; research and innovation.

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CARBON 4 BIOECONOMY: Linking carbon farming, bio-based value chains and CAP 2028–2034 for resilient rural development in Central Europe

The preparation of the next EU Multiannual Financial Framework 2028–2034 and the future Common Agricultural Policy creates an important window of opportunity to better connect climate mitigation, rural development, bioeconomy and territorial resilience. The European Commission's proposal for the 2028–2034 EU budget emphasises the need for a long-term investment framework supporting a more independent, secure and competitive Europe (European Commission, 2025a). At the same time, the renewed EU bioeconomy framework places stronger emphasis on market deployment, competitiveness, sustainable use of biological resources and reduced fossil dependency (European Commission, 2025b). These policy shifts are particularly relevant for Central European rural areas, where agriculture remains a key land-use sector, but where the transition towards climate-neutral and circular development models is often limited by fragmented value chains, uneven advisory capacities and insufficient integration of climate and bioeconomy objectives in policy instruments.

This poster presents the newly launched CARBON 4 BIOECONOMY project, an Interreg Central Europe initiative that explores the synergetic potential of combining carbon farming with bio-based value chains. The project responds to the observation that carbon farming and bioeconomy have often been developed as separate approaches, although both contribute to carbon neutrality: carbon farming through soil carbon sequestration and climate-friendly agricultural practices, and bioeconomy through the long-term use of biomass and carbon embedded in bio-based products. The project therefore seeks to test and promote an integrated model in which crops and biomass produced under carbon-friendly agricultural practices can become inputs for sustainable bioeconomy products.

The project combines downstream and upstream capitalisation. At the practical level, it will upgrade existing knowledge from previous Central European projects into a Guide for Carbon-Friendly Agricultural Practices and test selected practices in participating countries. It will also develop recommendations on how carbon-farming crops and agricultural residues can be used as ingredients for bioeconomy products, thereby helping farmers, SMEs and bioeconomy actors to build new cross-sectoral value chains. At the policy level, the project will prepare a Strategy

and Action Plan on how to integrate carbon farming and bioeconomy into national legislation and policy frameworks, with particular attention to CAP 2028–2034. This is consistent with wider EU efforts to establish robust certification and monitoring frameworks for carbon removals and carbon farming (European Union, 2024).

The poster argues that CARBON 4 BIOECONOMY can support rural resilience in three main ways. First, it can create new economic opportunities for farmers by linking climate-friendly practices with bio-based markets. Second, it can reduce functional borders between agriculture, advisory systems, SMEs and policy makers. Third, it can provide a practical transnational model for aligning national CAP implementation with climate, bioeconomy and rural development objectives. Although the project focuses on Central Europe, its logic may also be relevant for candidate countries preparing for deeper EU integration, especially where future rural development strategies will need to combine climate adaptation, low-carbon agriculture, circular value chains and institutional capacity building.

Keywords: carbon farming; bioeconomy; CAP 2028–2034; rural resilience; Central Europe; bio-based value chains; EU integration.

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From topsoil to subsoil literacy: DeepHorizon as a pathway to soil health, sustainable land management and food security

Soil literacy is increasingly recognised as a prerequisite for soil health, sustainable agriculture and food security. However, most educational, advisory and policy efforts still focus primarily on topsoil, while subsoil remains much less visible in public debate and farm-level decision making. This is a critical gap, because subsoil influences water regulation, nutrient cycling, root development, carbon storage, climate resilience and long-term productivity. The Horizon Europe project DeepHorizon responds to this gap by developing knowledge, tools and policy pathways

that make subsoil functions more visible, understandable and actionable for land managers, practitioners and decision makers.

DeepHorizon starts from the assumption that soil health cannot be assessed only through the upper soil layer. Instead, the whole soil profile needs to be considered, including subsoil horizons down to 2 metres, because deeper layers contribute to ecosystem services such as primary productivity, water purification and regulation, nutrient cycling, carbon storage, climate regulation and biodiversity conservation

(DeepHorizon Consortium, 2023). This perspective is strongly aligned with the EU Soil Strategy for 2030 and the Soil Mission objective of improving soil literacy and achieving healthy soils by 2030 (European Commission, 2021; European Commission, 2023).

This contribution focuses on two complementary components of DeepHorizon. Work Package 5 provides and tests practical solutions to improve subsoil ecosystem services. It links scientific knowledge with land-management practice through testing sites, Living Labs, communities of practice and user-oriented tools. The project develops interfaces such as B4F and E4M to help land managers assess subsoil properties, soil health and the expected effects of land management practices. These tools are designed to translate complex subsoil data and modelling outputs into practical guidance that can support better decisions at farm and landscape level.

Work Package 6 addresses the policy dimension of subsoil literacy. It develops policy instruments, cost-benefit analyses, policy briefs and decision-support tools to foster sustainable subsoil management practices. By linking subsoil indicators, ecosystem services and socio-economic assessment, WP6 aims to help policy makers understand which practices improve subsoil functions, what barriers limit their uptake and how incentives can be designed to support implementation. This is particularly important for future CAP instruments, result-based schemes, carbon farming, water resilience and soil-health monitoring.

The paper argues that subsoil literacy should be treated as an advanced stage of soil literacy. It requires not only awareness of soil degradation, but also the ability to interpret deeper soil functions, understand trade-offs between ecosystem services and use evidence-based tools in practical and policy decisions. DeepHorizon contributes to this shift by connecting sampling, modelling, Living Labs, economic assessment and policy design. In doing so, it can support a new generation of soil education that links scientific depth with practical relevance.

For sustainable agriculture and food security, this approach is essential. Farmers and advisors need accessible knowledge on how management practices affect the entire soil profile, not only topsoil indicators. Policy makers need reliable evidence to design incentives that reward long-term soil functionality. Citizens need to understand that healthy soils include hidden subsoil processes that sustain food production, water security and climate resilience. DeepHorizon therefore provides a useful model for transforming subsoil from an invisible resource into a visible component of soil health governance, agricultural sustainability and food-system resilience.

Keywords: soil literacy; soil health; carbon farming; capacity building; food security; sustainable agriculture; Central Europe.

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From topsoil to subsoil literacy: Transforming food systems through circular bioeconomy: lessons from the Polish Bioeconomy Roadmap co-created by the National Bioeconomy Hub

The transition towards sustainable food systems in Europe requires more than changes in agricultural production or consumer behaviour. It also demands a systemic transformation of how biological resources are produced, processed, circulated and valorised across food, feed, materials, energy and ecosystem-service pathways. Circular bioeconomy provides a useful framework for such a transformation because it links food security, biomass efficiency, rural development, industrial innovation, climate mitigation and resource resilience within one integrated policy logic (European Commission, 2025; Stegmann, Londo, & Junginger, 2020).

This contribution presents the draft Roadmap for the Development of Circular Bioeconomy in Poland, prepared through the National Bioeconomy Hub under the Horizon Europe CEE2ACT project. The roadmap was developed as a living, regularly updated document through a bottom-up and participatory process involving representatives of science, industry, public administration, finance, advisory organisations and civil society. The process included stakeholder mapping, national conferences, working meetings, expert consultations and iterative review of successive document versions. In this sense, the roadmap is not only a strategic document, but also an example of participatory governance for food-system and bioeconomy transformation.

The Polish roadmap defines circular bioeconomy as an integrated economic model in which renewable biological resources and bio-based side streams are used efficiently and repeatedly, with priority given to higher-value applications such as food, feed, materials and chemicals before energy use. This “food-first” and cascading-use logic is particularly important for sustainable food systems, as it helps avoid simplistic biomass mobilisation strategies and instead promotes value preservation, nutrient circularity, waste prevention and responsible resource allocation (Vis, Mantau, & Allen, 2016; Campbell-Johnston et al., 2020).

The roadmap identifies twelve priority areas for action, including regenerative biomass production and carbon farming, advanced biotechnologies and biomanufacturing, biorefineries, circular food systems and food-sector innovation, bioenergy and biofuels, ecosystem services, digitalisation, cascading use of wood and lignocellulosic biomass, education and skills, upcycling of unsold products and side streams, and bio-based construction materials. From the perspective of food-system transition, the most relevant elements include improving soil health and water

retention through regenerative production, reducing food losses and bio-waste, valorising unavoidable side streams, developing local and short value chains, strengthening traceability through digital tools, and building competencies among farmers, processors, advisors, consumers and public authorities.

The contribution argues that the Polish case illustrates three broader lessons for sustainable food-system transformation in Europe. First, circular bioeconomy can provide a bridge between agricultural policy, industrial policy, innovation policy and environmental governance. This is particularly relevant in Poland, where input-output modelling has shown that bioeconomy-related sectors may generate important direct and indirect effects across the national economy, especially through agriculture, food and other bio-based value chains (Loizou, Jurga, Rozakis, & Faber, 2019). Second, national roadmaps can help translate broad EU-level strategies into practical, country-specific pathways, especially in Central and Eastern Europe, where governance fragmentation and uneven innovation capacity remain important barriers. Third, food-system transition requires institutional platforms capable of sustaining dialogue beyond individual projects. The National Bioeconomy Hub can play such a role by acting as a neutral broker of knowledge, partnerships and policy learning.

The roadmap shows that sustainable food systems should not be understood only as “greener food production”, but as a wider transformation of biological resource governance. For Poland, circular bioeconomy offers a pathway to strengthen food security, improve soil and ecosystem health, reduce dependence on fossil resources, create new rural and industrial value chains, and position the country as an active contributor to Europe’s sustainable bioeconomy transition.

Keywords: circular bioeconomy; sustainable food systems; Poland; roadmap; National Bioeconomy Hub; biomass cascading; food security.

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Soil literacy for carbon farming: capacity building as a pathway to soil health, sustainable agriculture and food security in Central Europe

Soil health is increasingly recognised as a foundation for sustainable agriculture, climate resilience and long-term food security. However, the implementation of soil-improving practices depends not only on scientific evidence or policy incentives, but also on soil literacy: the ability of farmers, advisors, decision makers and rural stakeholders to understand soil functions, interpret soil-related indicators and translate knowledge into practical land management decisions. This is particularly important in the context of carbon farming, where soil organic carbon, nutrient cycling, erosion control, biodiversity and water retention are directly linked with both climate mitigation and productive capacity (Lal, 2004; Paustian et al., 2016; Smith et al., 2020).

This contribution presents the capacity-building approach developed within the Carbon Farming CE project, with a focus on Activity A1.3 “Capacity building for carbon farming techniques”. The activity was designed to support the uptake of carbon farming in nine Central European countries through national seminars, training materials and stakeholder-oriented knowledge exchange. The guidelines developed within the project define capacity building as a continuous process of access to information, facilitation, empowerment and technical advancement. This approach places farmers and rural communities at the centre of the learning process, while also involving agricultural advisors, landowners, businesses, researchers, NGOs and policy makers.

The Carbon Farming CE capacity-building model was structured around three thematic learning blocks: carbon farming techniques, business and cooperation models, and carbon sequestration methodology. This structure reflects the fact that soil literacy cannot be limited to general awareness raising. Farmers and advisors need practical understanding of how specific practices — such as cover crops, reduced tillage, organic amendments, agroforestry or improved residue management — affect soil organic carbon, soil structure, water retention and farm performance. At the same time, they need knowledge about monitoring, reporting and verification, as well as about possible cooperation models and economic incentives that can support adoption.

The project guidelines emphasise several educational principles relevant for soil literacy. First, training should be tailored to national and local needs, reflecting differences in farming systems, soils, advisory structures and policy contexts. Second, learning should be interactive, combining expert presentations with field demonstrations, case studies, discussion panels, practical workshops and feedback sessions. Third, soil education should be linked to real implementation pathways, including farm-level decision support, advisory networks, online training materials and post-seminar evaluation. Fourth, capacity building should not be treated as one-off dissemination, but as part of a longer process of building trust, networks and communities of practice.

The contribution argues that carbon farming can become an effective entry point for strengthening soil literacy in Central Europe. By linking soil health with climate policy, farm economics and food security, it makes soil knowledge more actionable for farmers and more relevant for public policy. Future CAP and rural development instruments should therefore support systematic soil literacy programmes, demonstration farms, advisory training, digital

tools and farmer-led learning networks. Such measures can help transform soil health from an abstract policy objective into a practical basis for resilient agriculture and secure food systems.

Keywords: soil literacy; soil health; carbon farming; capacity building; food security; sustainable agriculture; Central Europe.

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Towards digital food passporting in Europe: Sensor4Food as a model for safer, smarter and more transparent poultry value chains

The transition towards sustainable food systems in Europe increasingly depends on the ability to generate, integrate and communicate reliable information across entire value chains. Food safety, animal welfare, product quality, environmental performance, side-stream valorisation and consumer trust are no longer separate issues. They require interoperable data systems that can connect real-time measurements, processing decisions and transparent information flows from feed and farm to final product. In this context, digital food passporting can become an important instrument for sustainable food-system transformation, translating complex production data into traceable, verifiable and actionable information.

This poster presents the Sensor4Food project, a Horizon Europe Innovation Action focused on advancing photonic sensor systems for a smarter and safer food and poultry future. The project uses the poultry value chain as a pilot domain because it is one of Europe's largest meat categories and because it faces multiple critical control points related to feed safety, pathogens, antibiotic-related risks, animal welfare, meat defects, side-stream use and traceability. Current monitoring systems are often slow, laboratory-based and fragmented. Sensor4Food responds to this challenge by integrating advanced photonic sensing, non-optical signals, edge-to-cloud artificial intelligence and a standards-ready traceability architecture.

The project develops and validates five complementary sensing approaches: mid-infrared spectroscopy for mycotoxins and process analytics, silicon-photonics biosensing for pathogens,

VIS–NIR–SWIR hyperspectral imaging, and radio-frequency plus ultrasound sensing for meat-quality defects. These technologies are combined with multimodal data fusion, explainable AI and digital-twin approaches to support real-time decision making across six use cases: feed safety, biosafety, animal safety and welfare, meat quality, side-stream valorisation and traceability. The project aims to mature key technological components towards TRL 7 and to demonstrate them in industrial pilot environments.

A distinctive feature of Sensor4Food is the development of a pilot “poultry passport”. This concept builds on the broader policy momentum around digital product passports, traceability and interoperable data architectures in Europe. While the EU Digital Product Passport framework is currently rooted primarily in product sustainability and circularity policy, the Sensor4Food approach explores how similar principles can be adapted to food value chains: linking product identity, process events, safety indicators, quality parameters and sustainability-relevant data in a trusted digital layer. Alignment with GS1/EPCIS and ISO 22005 is particularly important because it can support interoperability and transferability beyond one project or one commodity chain.

The poster argues that Sensor4Food contributes to sustainable food-system transformation in three ways. First, it enables faster and more precise detection of risks, supporting food safety and reduced losses. Second, it links sensing and AI with traceability, creating a data foundation for digital food passporting. Third, it provides a transferable model for other agri-food chains, including pork, dairy and aquaculture. In the longer term, such approaches may strengthen transparency, competitiveness, consumer confidence and resilience in European food systems, provided that technological innovation is accompanied by governance standards, data-sharing rules and inclusive uptake by both SMEs and large processors.

Keywords: digital food passport; Sensor4Food; traceability; photonic sensors; poultry value chain; artificial intelligence; sustainable food systems.

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Zofia Koloszko-Chomentowska¹, Leszek Sieczko²¹ Białystok University of Technology² Warsaw University of Life SciencesEmail address: z.koloszko@pb.edu.pl**Eco-schemes as tools for managing sustainable agriculture**

The Common Agricultural Policy promotes the implementation of practices aimed at sustainable agricultural development, among which eco-schemes play a special role. The aim of the research was to identify and assess the regional diversity of the implementation of the eco-scheme „Carbon farming and nutrient management“. The analysis was carried out on the basis of data from the Agency for Restructuring and Modernization of Agriculture (AriMR) for 2024-2025. The grouping of regions was performed using hierarchical cluster analysis using the Ward method. Principal component analysis (PCA) was used to identify the main differentiating factors of the regions.

The results of the research indicate significant regional diversity in the implementation of activities under the eco-scheme „Carbon farming and nutrient management“. The leading region in terms of comprehensive implementation of the analysed practices is the Wielkopolska Voivodeship. The Mazowieckie and Podlaskie voivodeships also stand out from other regions with a relatively high level of implementation of practices conducive to carbon sequestration and rational management of nutrients. The northern voivodeships are characterized by a similar management model, especially in terms of crop diversity and use of permanent grassland. Slight interregional differences are observed only in relation to soil practices. On the other hand, southern voivodeships are characterized by lower activity in the implementation of pro-environmental practices, especially in the area of fertilizer management.

The research findings have certain limitations, primarily due to the short programming period, but may be the basis for better adaptation of eco-schemes to local conditions and for planning future activities supporting the sustainable development of agriculture.

Keywords: carbon farming, eco-schemes, environmental protection, sustainable agriculture.

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Email address: mkozak@iung.pulawy.pl**Conditions and directions for the development of unused agricultural land in the context of rural development in Poland**

The issue of agricultural land abandonment continues to be present in the ongoing changes in land cover and use in many parts of the world, including Poland. This phenomenon, generated by a combination of natural, economic, and demographic factors, is traditionally perceived as a structural barrier. A direct consequence of agricultural abandonment is natural succession. Its dynamic and spontaneous development significantly transforms the traditional rural landscape and impacts local ecosystems. The main research problem revolves around the question of whether unused agricultural land constitutes solely a spatial and economic barrier, or can it become a strategic reserve for new rural functions.

The aim of this study is to identify the key conditions influencing the emergence of unused agricultural land in Poland and to identify optimal paths for its transformation into development capital for rural areas. In the methodological aspect of the study, the topic of unused agricultural land was addressed in the context of its spatial identification, assessment of the degree of natural succession, and soil conditions. Identifying these characteristics can be crucial in designing strategies development strategies for these lands. Analyses were conducted using Geographic Information Systems, which allow for the integration of data from multiple sources, including satellite data.

The research conducted, as well as the results of the identification and assessment of the condition of unused agricultural land on a local scale, demonstrated the dispersed nature and high fragmentation of unused agricultural land. Such characteristics may hinder the development of these areas.

Key directions for their adaptation include the development of renewable energy sources (RES), afforestation and renaturalization for climate purposes, as well as non-agricultural diversification. However, the condition for activating this capital is the implementation of an integrated spatial policy at the municipal level and the elimination of formal and legal barriers related to the regulation of real estate status.

Keywords: Unused agricultural land, Rural area development, Spatial policy, Geographic Information Systems (GIS).

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Technological Innovation and Agriculture: Adoption and Barriers

Building resilient rural areas and sustainable food systems depends on understanding what drives farmers to adopt modern technology. This study examines empirically the patterns of technology adoption, the motives behind it, and the barriers farmers report. We ran a CAWI survey on a sample of N=434 respondents in Poland. Because respondents self-selected into an online survey, the sample represents mainly medium and large farms, the ones that account for market food production. We estimated binomial, Poisson, and ordinal regressions of the number of technologies in use, classification trees (pruned CART and conditional inference trees) for investment intention, and random forests for both outcomes. Economic factors dominate competence factors as barriers to adopting technological innovation. The main barrier is the high cost of adoption (74%), followed by a shortage of own capital (58%); lack of knowledge (13%) and complexity of operation (10%) play a marginal role. Cost is named at every level of adoption; what separates non-adopters is seeing no need (31% against 7%). Among motives, the traditional goal of higher profit from better use of resources (62%) yields narrowly to the wish to improve working conditions and comfort (64%). Adoption rises with farm scale (Spearman's rho of 0.34 for both area and revenue) and with attitude to novelty: farmers who prefer proven methods use about a third fewer technologies, other characteristics held constant. Farm characteristics shift the odds of adoption without determining who adopts; the random forest explains 11% of the variance in technologies in use. Three exploratory findings extend the

standard account. Adoption follows turnover, not margin: revenue correlates with technologies in use at 0.31 once profitability is held constant, while profitability correlates at -0.04 once revenue is; we propose scale-coerced adoption as the hypothesis that production volume, not the return on it, drives investment. Farmers who treat the Internet as a commercial tool for business contact use 74% more advanced production technologies. Adoption dissolves indifference to cooperation without producing enthusiasm: as technologies in use rise from none to three or more, the share not interested in cooperation falls from 30% to 15%, the share already cooperating or open to it stays flat, and the share calling cooperation difficult rises from 34% to 45%. These findings carry implications for public policy. Government support should concentrate on simplified co-financing of investment in innovative technology. Interventions supporting innovative production technology should also be combined with market education, including the commercial use of the Internet, and with institutional and legal support for cooperation among farmers.

Keywords: technological innovation, technology adoption, investment barriers, farmers' motivations.

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RURALSTRAT: An R&D Project for Implementing the Smart Village Concept in National and Regional Development Policies in Poland

Rural areas in Poland and across Europe face structural challenges such as depopulation, ageing communities and limited economic resilience, which risk entrenching a demographic trap and a middle-income trap in the long term. The smart village concept is increasingly regarded as a tool for supporting sustainable, intelligent rural development, yet its implementation in national and regional development policies remains fragmented and weakly integrated into strategic frameworks. The RURALSTRAT (GOSPOSTRATEG-XII/0001/2025) project aims to develop a framework and directions for implementing the smart village concept in Poland's national and regional development policies, through a socio-technological foresight of the concept's main dimensions and the identification of practical solutions adaptable to Polish institutional, socio-economic and territorial conditions. The project applies a mixed-methods approach combining a systematic review of scientific literature, strategic documents and examples of domestic and international implementations; a comparative analysis of case studies from Poland, the EU and non-European countries; field research and expert consultations; an analysis of trends and the identification of social, economic, governance, environmental and technological innovations relevant to rural areas; and work on solution catalogues, validation and strategic recommendations. Expected results include a diagnosis of the current state of smart village implementation in Poland and abroad; a set of good practices, success factors, barriers and risks associated with implementation; the identification of priority intervention areas; and a strategic framework with directions for action supporting the development of smart villages, tailored to the Polish institutional and territorial context. The findings are intended to provide national and regional decision-makers with practical knowledge and recommendations enabling more

effective and context-sensitive rural development policy design, while contributing to counteracting long-term risks such as rural depopulation and economic stagnation.

Funding: This research was conducted as part of the project "Smart Village Implementation Framework and Directions for National and Regional Development Policies (RURALSTRAT)", project no. GOSPOSTRATEG-XII/0001/2025, funded by the National Centre for Research and Development (NCBR) under the GOSPOSTRATEG XII Strategic Programme for Scientific Research and Development.

Keywords: smart village, R&D project, rural development policy, rural resilience, policy framework, Poland, good practices.

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Traditional Institutions and Participatory Rural Governance: Evidence from Castilla y León (Spain) for Sustainable Territorial Development

European rural areas are currently facing major challenges related to depopulation, socio-economic restructuring, and ecological transitions. In this context, territorial governance has gained increasing importance as a key driver of sustainable rural development. Within this framework, participatory approaches and culturally embedded institutions are emerging as critical components for fostering inclusive and place-based development strategies.

This poster analyses the role of traditional instruments in rural governance through an empirical case study of Castilla y León (Spain), one of the European regions most affected by demographic decline and territorial imbalance. The study focuses on traditional institutions such as communal land management systems, local governance practices, and historically rooted forms of collective decision-making, examining how these elements are being reactivated and reinterpreted within contemporary rural development policies.

Using a qualitative methodology based on document analysis and case-based evidence, the paper explores how these traditional instruments contribute to enhancing social cohesion, strengthening institutional legitimacy, and enabling participatory governance processes at the local level. The findings highlight that the integration of local knowledge and culturally embedded practices into formal governance frameworks facilitates processes of social innovation and supports the co-design of development strategies tailored to territorial specificities.

However, the study also identifies key challenges, including the limited scalability of these initiatives and their articulation within broader multi-level governance systems shaped by European and national policy frameworks. In particular, tensions emerge between standardized policy approaches and the need for context-sensitive governance models.

The paper concludes that traditional institutions should be reconsidered as strategic assets for rural development, contributing to more participatory, resilient, and territorially grounded governance models in European rural regions.

Keywords: Rural governance, Participatory approaches, Traditional institutions, Castilla y León, Territorial development, Social innovation, Multi-level governance, Community-based development.

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Granularity as a governance question: evidence from sixteen GRANULAR Practice Abstracts on data, capacity and local ownership in rural Europe

Rural policy is increasingly expected to be place-based, yet the evidence available to rural actors is rarely produced at the scale at which they act. Municipal averages and national or EU-level indicators describe territories in aggregate and conceal precisely the differences that determine local action: which village loses its bus connection, which producer can join a short supply chain, which household cannot find a home. This contribution asks how that gap can be closed in practice, drawing on sixteen Practice Abstracts prepared within the Horizon Europe project GRANULAR (GA 101061068) and synthesising the experience of seven Living Labs and nine Replication Labs in Albania, Finland, France, Greece, Italy, Latvia, Lithuania, Moldova, the Netherlands, Poland, Romania, Serbia, Spain, Sweden and the United Kingdom.

The material comprises eight thematic abstracts covering wellbeing, the green transition, natural resources, climate change, demographic change, tourism, agri-food systems and rural attractiveness, and eight methodological abstracts documenting tools tested in the Labs, from novel data collection and rural proofing to cross-visits and reflexive analysis. The abstracts were organised by content rather than by Lab, which allows diverse rural contexts to be compared around shared challenges. The corpus was read comparatively against three questions: what evidence was used, what it revealed about the specific territory, and what local actors could do differently as a result.

Four findings emerge. First, granularity is not a technical detail but the factor deciding whether evidence supports action. Evidence produced at village, municipal or establishment level made visible what aggregated statistics hide. In Scotland, joining turbine locations with the rural-urban classification, the index of multiple deprivation and land capability showed that 44% of turbines stand in accessible rural areas and 37% in very remote ones, against 0.9% across all urban classes, while only 4% occupy prime agricultural land, a distribution with direct consequences for who hosts and who benefits from the transition to net zero.

Second, much of this evidence is affordable. The methods use free satellite imagery and open-source software, official statistics read below their usual level of aggregation, administrative records already held by public services, and small surveys within the reach of a Local Action Group. In the French Pyrenees, Copernicus Sentinel-2 imagery combined with national forest inventory data classified chestnut decline as 36% low, 37% moderate and 27% severe, with field-checked accuracy of about 75%. In Serbia and Finland, surveys of 175 and 271 respondents produced the first usable local baselines where statistics did not exist.

Third, and most relevant to sustainable food systems, data becomes usable only when interpreted with local knowledge and connected to the institutions that decide. Across the agri-food cases in France, Italy, Poland and Romania, including a survey of 600 producers in West Pomerania, the binding constraint on short food supply chains proved to be neither farm size nor infrastructure, but the missing habit of working together. Producers' fairs, organic districts and rural district structures turned individual production into a shared territorial offer.

Fourth, methods travel as adaptations rather than copies, and capacity decides whether transfer happens at all. For the Replication Labs, including those outside the EU statistical system, the

recurring obstacle was data availability rather than analysis. Seven cross-visits involving 133 participants showed that transfer works when it is organised and documented. Throughout, progress depended on a local structure willing to own the results, whether a forest charter, a LEADER group, a park administration or a network of municipalities.

The contribution argues that granular evidence should be treated as a governance instrument rather than a research by-product. For resilient rural areas and sustainable food systems this implies embedding rural proofing in policy design, investing in the analytical capacity of small municipalities and local partnerships, and treating local knowledge as part of the evidence base rather than as consultation.

Keywords: rural development, granular data, place-based policy, rural proofing, short food supply chains, Multi-Actor Labs, GRANULAR.

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Growing Climate Resilience in Remote rural Areas through Community Empowerment

Europe is warming faster than other continents. This rapid climate change increases the frequency of extreme weather events, such as floods, wildfires, and droughts, endangering people, infrastructure, ecosystems, and the economy. In response, the European Commission (EC) has enacted policies like the European Green Deal, the European Adaptation Strategy, and the European Mission on Adaptation to Climate Change, aiming to boost resilience.

Rural areas are disproportionately vulnerable to climate changes due to their dependence on natural resources and exposure to diverse climate risks. Moreover, rural areas, especially remote rural areas, are faced with even greater limitations to their resilience as lower institutional capacity, underinvestment, and depopulation, lowering their capacity to adopt climate adaptation measures.

GRACE project focuses on addressing the needs of rural and small and medium communities localised in EU remote rural areas to adapt and build resilience against CC. It focuses on strengthening their capacities and empowering them in becoming actors of change and undertaking transformative actions. There are 5 demonstrator regions placed in Austria, Denmark, Italy, Portugal and Sweden. They are involved in co-developing innovative solutions centred on nature-based approaches. These solutions are designed to deliver multifunctional, place-based social, environmental and socio-economic benefits. Moreover, these solutions will take into account circular economy principles to further enhance local adaptation capacity. At the same time, the project will enhance local socio-economic activities, promote circular business models and help mitigate the challenges of depopulation and aging.

The next level of activities within GRACE includes replicator regions. They are located in: Greece, Ireland, Latvia, Slovakia and Ukraine. Their role includes preparing for adopting the innovations developed by the demonstrator regions. The final level GRACE concerns observer regions. They will follow and replicate these solutions fostering widespread climate change adaptation across

Europe's rural areas. By integrating nature-based solutions, digital technologies, and community participation.

Keywords: rural development, climate change; adaptation, remote rural areas, nature-based solutions.

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Soil Orchestras as a Grassroots Model for Soil Literacy: Lessons from Poland and a Call to Establish New Ensembles Across Rural Europe

Soil degradation across Europe is accelerating, yet public understanding of soil's role in food security, climate resilience and rural liveability remains alarmingly low. Scientific consensus on the urgency of soil protection has not translated into broad societal engagement, exposing a persistent gap between research and public awareness. This gap is especially consequential for rural areas, where soil health underpins farming viability, landscape identity and the long-term sustainability of food systems, and where addressing it requires governance models that go beyond conventional expert-to-public communication.

The Horizon Europe project SOILSCAPE (Spreading Open and Inclusive Literacy and Soil Culture through Artistic Practices and Education) proposes such a model: the Soils and Arts Orchestra. Each Orchestra is a locally rooted, multi-stakeholder network of 15 to 30 organisations – soil scientists and trainers, artists and cultural and creative industries, educators, cultural venues, funders, media and policy actors – who jointly design interdisciplinary artistic and educational activities around soil, including local Soil Festivals. Eight national Orchestras currently operate in Bulgaria, Finland, France, Germany, Italy, Poland, Portugal and Switzerland, each coordinated by a “conductor” organisation and linked through European-level exchange and joint Soil Festivals, the first of which took place in Portugal and France in 2026.

The Polish Soil Orchestra (Orkiestra Glebowa), conducted by the European Rural Development Network, illustrates how the model translates into practice. Inaugurated in October 2025 in Milanówek, it was framed explicitly as “a platform for building social support for soil protection and creating synergies between projects”, bringing together research institutes, cultural organisers and local authorities. Its subsequent activities show the versatility of the approach: for example, the “Relict Soil” expedition and workshop series invites participants to collect local soil, transform it into natural pigments and create artworks that treat soil as a carrier of memory and regional identity. These low-cost, community-scale events demonstrate that a Soil Orchestra need not wait for large infrastructure: a modest coalition of a cultural centre, a research institute and local artists is enough to start one.

This contribution argues that the Soil Orchestra format deserves deliberate replication across rural regions of Europe, including countries and candidate states not yet covered by SOILSCAPE's initial eight. As the project enters its validation and replication phase (2027–2028), it is actively seeking new “conductors” to establish additional Orchestras, alongside looser “community working bands” through which local actors – artists, scientists, funders, cultural venues and policymakers – can contribute without formally leading a chapter. For rural development practitioners and researchers, this represents a concrete, low-barrier governance instrument: it

builds soil literacy from the ground up, creates durable local coalitions between science, culture and policy, and gives soil protection a public constituency that purely regulatory or extension-service approaches struggle to generate.

Drawing on documentary analysis of the SOILSCAPE project and the Polish Orchestra's first year of activity, this poster distils a practical outline for regions considering founding their own Orchestra: identifying an anchor institution, assembling a founding coalition across the required stakeholder categories, and using an initial low-cost cultural event to test engagement before scaling up. It concludes with a direct call to conference participants, particularly those working in regions with underdeveloped soil-literacy infrastructure, to consider establishing a Soil Orchestra of their own as a contribution to the resilience of rural areas and the sustainability of food systems.

Keywords: soil literacy; soil orchestras; SOILSCAPE; art-science collaboration; rural development; soil health; community engagement.

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Integrating New European Bauhaus Principles into land use debate

The importance of soil health and preventing its further degradation are an increasingly being introduced in different aspects of EU policies. Land use and land use change are at the forefront of the soil health activities calling for different land use stakeholder groups to not only become more aware of the value of soil health but also trying to make them cooperate in preventive and regenerative activities.

Research is on effective and efficient nature-based solutions and way of including soil health into the land use debates at different administrative levels is also a vital part of actions being taken at the EU level to support soil health. One of the projects directly related to soil health in the land use context is LandShift. The aim of this project is to unite technological innovations, nature-based solutions and local community voice in their efforts to co-create land use policies and practices that support sustainable land use in line with soil health need. The project also makes use of the New European Bauhaus principles to put nature-based solutions and land use in a wider perspective.

The New European Bauhaus an initiative of the EIT Community. It is focused on achieving sustainability and inclusivity through a community-driven movement enriched by all forms of art and design. It is based on interdisciplinary dialogue aimed at creating harmonious relationship between nature and humans. The projects being implemented within the New European Bauhaus (NEB) concentrate on testing and scaling up ideas combining human and natural needs. A great emphasis is put on citizen engagement and encouraging innovative solutions. The NEB principles include sustainability, inclusiveness, aesthetics and cultural values.

The study conducted within LandShift focused on the current state of awareness and implementation of NEB principles in the land use policies of the LandShift multi-actor platforms operating in Poland, Cyprus, Italy, France and Ukraine. The survey showed that the awareness of

NEB principles is strong, but the inclusion of these principles is still at the very early stage. The sustainability principle as the one most directly related to land use is the key focus in all the LandShift case study countries. The results also showed that despite the country specific characteristics the trade-offs among land use sectors add to the complexity of taking into account the NEB principles.

Keywords: land use, soil health, New European Bauhaus, multi-actor approach.

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The BbioNets Platform and BBTs Assessment Tool: supporting the resilience of rural areas and sustainable food systems in Europe

The transformation of Europe's rural areas requires not only new technologies, but above all a strengthening of their resilience that can be achieved through a shift towards more circular models of biomass management. Europe faces simultaneously a range of challenges from mitigating climate changes to ensuring food and energy security, as well as the need to meet the objectives of the Green Deal and the EU's forthcoming financial frameworks. It is becoming increasingly clear that the problem is not solely a lack of innovative solutions, but rather the fragmentation of knowledge, poor innovation transfer and a mismatch between available technologies and diverse regional conditions. This applies in particular to the use of agricultural and forest biomass, where the results of numerous projects, EIP AGRI Operational Groups, and advisory initiatives often remain stored in reports, making them difficult to access for practitioners and local communities.

The BbioNets Platform was designed to address these challenges, with the focus on utilisation of agricultural and forestry residues. Its aim is to bring together in one place the findings of the European thematic network, including experience in the field of bio-based technologies (BBTs), and to make them available in a format accessible to a wide range of users: farmers, foresters, advisers, local authorities and decision-makers. The platform offers a suggested prioritisation of BBTs and biomass-based solutions, presenting their requirements, potential benefits and limitations, as well as examples of implementation, which facilitates their comparison and assessment of suitability in specific regional contexts. At the same time, it acts as a network or hub that strengthens cooperation between stakeholders and facilitates the exchange of experiences between regions and sectors. The central element of the Platform is the BBTs Assessment Tool – a cost-effectiveness model assessing quantitative data (e.g., supply value) and qualitative data (e.g., added value, process complexity, etc.) of BBTs as well as the current resources and needs of six EU regions, ranking BBTs according to their suitability for regional conditions. The quantitative and qualitative indicators allow for the identification of BBTs that best match local biomass resources and individual priorities set by a user. This provides farmers, foresters and decision-makers with practical support in making investment decisions, reducing risk and accelerating the implementation of innovative solutions that promote development of rural areas and strengthening their resilience.

The BbioNets platform can support the transformation towards more resilient, circular food systems in rural areas: from better management of surplus biomass, through reducing investment risk, to the

creation of new value chains in the bioeconomy. The platform can be used as a source of knowledge when designing interventions under the CAP, cohesion policy, and the EU's future financial framework.

Keywords: BBioNets, agricultural residues, rural areas, cost-effectiveness assessment tool, bio-based technology.

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Territorial Inequalities, Rural Resilience and Wellbeing in Peripheral Regions

Healthy living and wellbeing in rural areas are shaped not only by healthcare accessibility, but also by broader territorial conditions related to economic structure, institutional capacity and knowledge-based development. Peripheral rural regions frequently accumulate structural disadvantages, including weaker labour markets, limited accessibility to public services and lower adaptive capacity.

In the context of contemporary European challenges, strengthening rural resilience has become an important policy objective linked to sustainable development and the “right to stay” in rural areas. Knowledge intensity represents a significant territorial factor supporting socio-economic adaptability, innovation capacity and institutional development.

The study examines how knowledge-based territorial differentiation influences wellbeing conditions and healthcare accessibility in peripheral rural regions in Poland. The analysis covers 2,477 municipalities and is based on REGON enterprise data classified according to PKD/NACE 2007. Seven sectoral groups reflecting technological and knowledge intensity were identified using OECD and Eurostat standards. Principal Component Analysis and k-means clustering were applied to identify territorial types based on knowledge intensity.

The results indicate that municipalities characterized by higher knowledge intensity display better healthcare accessibility, stronger institutional environments and more favourable wellbeing conditions. In contrast, peripheral rural municipalities with low knowledge intensity accumulate structural disadvantages that may weaken their long-term demographic and socio-economic sustainability.

The findings highlight the importance of knowledge-based development in strengthening rural resilience and supporting balanced territorial development. Policies focused on institutional capacity, education, innovation and service accessibility may play an important role in reducing territorial inequalities and supporting sustainable rural development.

Keywords: rural resilience; territorial inequalities; wellbeing; peripheral regions; knowledge-based development; rural development; territorial cohesion.

About European Rural Development Network





European Rural Development Network (ERDN) is an international research network and association based in Poland. Since 2002, it has connected researchers, universities, research institutes and experts working on rural development, agriculture, food systems and territorial transformation in Europe, with particular attention to Central, Eastern and South-Eastern Europe.

European Rural Development Network (ERDN) is an international research network and association based in Poland, bringing together researchers, universities, research institutes and experts working on rural development, agriculture, food systems and territorial transformation in Europe. Established in 2002, ERDN was created to integrate the efforts, competences and research experience of European scientific institutions in analysing the state, challenges and transformation paths of rural areas, with particular attention to Central, Eastern and South-Eastern Europe.

The Network's mission is closely aligned with the idea of building the European Research Area for agriculture and rural development. ERDN provides a platform for international and interdisciplinary cooperation between leading research centres studying rural areas, farming, agri-food systems, rural communities and regional development processes. The Institute of Agricultural and Food Economics – National Research Institute in Warsaw, Poland, coordinates ERDN's activities.

ERDN brings together institutions and individual researchers from Poland, Austria, Czechia, Slovakia, Hungary, Romania, Lithuania, Croatia, Ukraine, Serbia, Moldova, Montenegro, Kosovo and other European countries. It also cooperates with scientists and experts from countries including the United Kingdom, Germany, France, Spain, Norway, Finland and Italy. This international and cross-disciplinary character allows the Network to combine diverse scientific perspectives and practical experience in order to better understand the complexity of rural development processes in Europe.

One of ERDN's key strengths is its long-standing cooperation based not only on formal scientific collaboration, but also on trust, knowledge sharing and social capital built among researchers from different countries and generations. The Network serves as a forum for exchanging ideas, research results, publications, statistical data and policy-relevant knowledge. It supports joint

initiatives, research partnerships, scientific mobility, seminars, workshops and international conferences.

Main objectives:

- strengthen networking between researchers representing different scientific disciplines and countries;
- analyse the state, perspectives and strategies of rural development in Central, Eastern and South-Eastern Europe;
- support international and intergenerational knowledge transfer through joint research;
- advance international scientific cooperation in rural development, agriculture and food systems;
- promote scientific achievements and policy-relevant research results;
- support policymakers, stakeholders and rural actors in designing sustainable development pathways for European rural areas.

ERDN's activities focus on issues that are strategic for the future of rural areas, including sustainable rural development, agricultural and food policy, bioeconomy, climate resilience, social innovation, territorial cohesion, green and digital transition, soil health, rural attractiveness and the role of local communities in transformation processes.

The Network is involved in international research and innovation projects financed from EU Framework Programmes and other European and national funding sources. Recent ERDN project activities include initiatives related to CAP governance, climate resilience, soil culture, social economy, land-use transformation, bioeconomy and rural innovation.

ERDN cooperation involves the exchange of publications and statistical data, the development of joint research topics, efforts to build new institutional partnerships, joint applications for research funding, exchange of scientists and regular scientific meetings during seminars, conferences and workshops.

Annual ERDN conferences are a central element of the Network's development. They provide a regular space for knowledge exchange, presentation of research results, discussion of emerging challenges and development of new research ideas. Outcomes of ERDN cooperation are disseminated through conferences, publications, scientific journals and the ERDN yearbook *Rural Areas and Development*.

Through more than two decades of cooperation, ERDN has become an important European platform for interdisciplinary research, policy dialogue and knowledge transfer on rural development. By combining scientific excellence, international experience and a strong network of rural development experts, ERDN contributes to a better understanding of rural transformations and supports evidence-based policymaking for sustainable, inclusive and resilient rural areas in Europe.

More info ERDN official website : www.erdn.eu

@ERDN - Follow us on Facebook and LinkedIn for fresh news about our members, projects and activities!

ERDN activity in international bodies



At a glance

Initiative / body	ERDN role	Status and current relevance
Rural Pact	Member / participant	Ongoing EU cooperation framework under the Long-Term Vision for Rural Areas.
Rural Pact Coordination Group	Participant during the mandate	The 2023-2026 mandate ended on 31 May 2026; outputs remain relevant for post-2027 EU policy.
New European Bauhaus	Partner	Ongoing initiative, now supported by the 2025-2027 NEB Facility.
Mission Soil	Soil Manifesto signatory	Ongoing EU Mission aiming for 100 Living Labs and Lighthouses by 2030.
Pact for Skills	Member	Ongoing EU skills partnership framework.
European Climate Pact	Member	Ongoing European Green Deal initiative for climate action and awareness.
Rural proofing and CAP thematic groups	ERDN represented by Prof. Barbara Wieliczko	Past thematic groups with continuing policy relevance.
Harnessing Talent Platform	ERDN represented in Territorial development WG	Ongoing DG REGIO/Talent Booster Mechanism platform.
BIOEAST	Founding member	Ongoing Central and Eastern European bioeconomy initiative.
CEE2ACT Polish National Bioeconomy Hub	Member	Ongoing national platform supporting Poland's circular bioeconomy roadmap.

Rural Pact

ERDN is a member of the Rural Pact, a European Union initiative launched as part of the Long-Term Vision for the EU's Rural Areas. The Pact provides a cooperation framework for public authorities, civil society organisations, businesses, academia and citizens at European, national, regional and local level.

The Rural Pact helps place rural areas higher on the political agenda, supports exchange and mutual learning between stakeholders, and encourages voluntary commitments and concrete action linked to the shared goals of the EU rural vision. Its activities include networking, event organisation, peer learning, good-practice exchange, policy dialogue and support for integrated rural strategies.

In 2026, the Rural Pact Support Office continued to strengthen collaboration among nearly 4,000 community members, with a focus on integrated approaches for rural areas and on stakeholder participation in future National and Regional Partnership Plans.

Amplifying rural voices and bringing them higher on the political agenda.

Structuring and enabling networking, collaboration and mutual learning.

Encouraging and monitoring voluntary commitments to act for the rural vision.

More information: https://ruralpact.rural-vision.europa.eu/index_en

Rural Pact Coordination Group

ERDN participated in the Rural Pact Coordination Group (RPCG), a multi-stakeholder platform established in June 2023 as part of the governance framework of the Rural Pact. Its purpose was to support the implementation of the Long-Term Vision for the EU's Rural Areas and provide strategic guidance for the development of the Rural Pact.

The RPCG brought together representatives of EU institutions, public authorities, civil society organisations, rural networks, researchers and businesses. Its three-year mandate concluded on 31 May 2026. During its operation, the group contributed to policy debate on rural proofing, territorial cohesion, rural attractiveness, demographic change, LEADER/CLLD, Smart Villages and the post-2027 EU policy framework.

Key outputs include the RPCG Declaration on the future of rural areas and rural development policy in the European Union, adopted in December 2024, and a position paper on legislative developments around the post-2027 Multiannual Financial Framework, published in 2026.

Encouraged stakeholder participation and mobilisation around Rural Pact objectives.

Evaluated progress towards the objectives of the Rural Pact and the EU rural vision.

Monitored actions and commitments linked to the rural vision.

Provided suggestions for Rural Pact activities, events and communication priorities.

More information: https://ruralpact.rural-vision.europa.eu/RPCG_en

New European Bauhaus

ERDN is a partner of the New European Bauhaus (NEB), a creative and transdisciplinary EU initiative that connects the European Green Deal with everyday places, built environments and community life. The NEB is built around three inseparable values: sustainability, beauty and inclusion.

ERDN's research and networking activities can contribute to ensuring that NEB values are considered not only in urban neighbourhoods but also in rural areas, small towns and functional rural-urban territories. This is especially relevant where sustainability, accessibility, affordability, cultural heritage and place-based innovation intersect with rural development.

A significant update is the New European Bauhaus Facility 2025-2027, a multiannual funding tool anchored in Horizon Europe and other EU budget sources. The Facility supports projects from research and innovation through to deployment, with an estimated Horizon Europe contribution of EUR 120 million per year for the research and innovation component from 2025 to 2027.

Sustainability, from climate goals to circularity, zero pollution and biodiversity.

Beauty and quality of experience beyond functionality.

Inclusion, from valuing diversity to securing accessibility and affordability.

More information: https://new-european-bauhaus.europa.eu/funding/new-european-bauhaus-facility_en

A Soil Deal for Europe

ERDN is among the signatories of the Soil Manifesto linked to the EU Mission "A Soil Deal for Europe" (Mission Soil). The Mission aims to protect and restore soils and promote sustainable soil management in rural and urban areas.

The Mission's main goal is to establish 100 Living Labs and Lighthouses by 2030 to lead the transition towards healthy soils. It combines research and innovation, real-life testing and demonstration, a harmonised soil monitoring framework, and activities to improve soil literacy and public awareness.

The Mission is closely linked to wider EU efforts such as the EU Soil Strategy, the European Green Deal, the EU Soil Observatory, the Common Agricultural Policy and the proposal for a Soil Monitoring Law. More than 60% of EU soils are estimated to be unhealthy, which underlines the need for urgent and coordinated action.

Reduce land degradation relating to desertification.

Conserve and increase soil organic carbon stocks.

Achieve no net soil sealing and increase reuse of urban soils.

Reduce soil pollution and enhance restoration.

Prevent erosion.

Improve soil structure to enhance habitat quality for soil biota and crops.

Reduce the EU global footprint on soils.

Increase soil literacy across society.

More information: <https://mission-soil-platform.ec.europa.eu/about/mission-soil>

Pact for Skills

ERDN is a member of the Pact for Skills, one of the flagship actions of the European Skills Agenda. The Pact brings together public and private organisations to make concrete commitments to upskilling and reskilling adults, with particular relevance to the green and digital transitions.

ERDN's commitment can focus on supporting its members and partners in developing skills on themes closely linked to its wider EU engagement, including rural development, soil health, bioeconomy, climate adaptation and mitigation, territorial policy and stakeholder participation.

The Pact offers members access to networking opportunities, knowledge and peer-learning activities, and guidance on funding and partnerships. In 2026, the European Commission reported that more than 10 million people had benefited from upskilling initiatives under the Pact since its launch in 2020.

Promoting a culture of lifelong learning for all.

Building strong skills partnerships.

Monitoring skills supply and demand and anticipating skills needs.

Working against discrimination and supporting gender equality and equal opportunities.

More information: https://pact-for-skills.ec.europa.eu/index_en

European Climate Pact

ERDN is a member of the European Climate Pact, a European Commission initiative launched as part of the European Green Deal. The Pact supports the EU objective of becoming climate-neutral by 2050 and aims to mobilise individuals, communities and organisations for climate action.

For ERDN, the Climate Pact is relevant because rural areas are central to climate adaptation, mitigation, land management, renewable energy, biodiversity, soil health, food systems and community resilience. ERDN research and dissemination activities can help strengthen evidence-based climate action in rural territories.

Learning about climate change and climate solutions.

Developing and implementing practical solutions.

Connecting with others to maximise the impact of climate action.

More information: https://climate-pact.europa.eu/index_en

Thematic Group on Rural Proofing

Prof. Barbara Wieliczko represented ERDN as a member of the Thematic Group on Rural Proofing. The group was created by the European Network for Rural Development and was active in 2022. Its work remains relevant because rural proofing continues to be a key principle in ensuring that EU policies adequately account for rural needs, territorial diversity and potential impacts on rural communities.

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. The group was created by the EU CAP Network and operated in 2023-2024. Its work supported discussion on how monitoring committees can contribute to transparency, participation, evidence use and effective implementation of CAP Strategic Plans.

Harnessing Talent Platform - Working Group “Territorial development”

Prof. Barbara Wieliczko represents ERDN in the Working Group “Territorial development”, established as part of the Harnessing Talent Platform. The platform was created as an outcome of the European Commission Communication on Harnessing Talent in Europe’s Regions and forms part of the Talent Booster Mechanism.

The Harnessing Talent Platform supports regions affected by demographic change, talent decline and brain drain. It provides access to knowledge, good practices, technical assistance, events and working groups, helping regions to train, attract and retain talent. The Territorial development working group is relevant to ERDN because rural areas and regions facing demographic decline need place-based approaches to employment, skills, quality of life, services, innovation and lifelong learning.

More information: https://ec.europa.eu/regional_policy/policy/communities-and-networks/harnessing-talent-platform_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. BIOEAST supports knowledge-based and cooperation-based circular bioeconomies in Central and Eastern Europe, with the aim of enhancing inclusive growth, creating value-added jobs, especially in rural areas, and maintaining or strengthening environmental sustainability.

Prof. Paweł Chmieliński chairs the BIOEAST Thematic Working Group on Food Systems. The group is coordinated by the Polish Ministry of Agriculture and Rural Development and the Polish Academy of Sciences. Its purpose is to strengthen participation of Central and Eastern European countries in research and innovation policy on food systems, facilitate knowledge exchange, and support sustainable and resilient food system transformations in the macro-region.

Development of BIOEAST strategic research and innovation priorities.

Dialogue with national and EU-level stakeholders on sustainable food systems.

Support for circularity, food safety, food quality, food waste reduction and sustainability transitions.

Representation of Central and Eastern European perspectives in EU research and innovation debates.

More information: <https://bioeast.eu/food/>

CEE2ACT Polish National Bioeconomy Hub

ERDN is a member of the Polish National Bioeconomy Hub developed under the CEE2ACT project and coordinated by the Institute of Soil Science and Plant Cultivation - State Research Institute (IUNG-PIB). The Hub is intended as a multi-stakeholder platform linking science, business, public administration and civil society in support of Poland's circular bioeconomy.

The Hub was launched in October 2023 in Puławy. Stakeholders identified important barriers, including the lack of a single coordinating institution for national bioeconomy strategy, limited trust and cooperation, high educational needs, insufficient awareness, and legislation not fully aligned with the needs of bioeconomy sectors and value chains.

A key update is that the CEE2ACT project reports the development of a national bioeconomy roadmap for Poland. The Polish Hub brings together stakeholders such as ministries, regional bodies, clusters, SMEs, universities, research centres, technology parks, NGOs, environmental organisations and farmer organisations. Its long-term role is to support strategy-building, business models, policy dialogue and cooperation across biomass value chains.

More information: <https://www.cee2act.eu/hub/poland/>

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European Climate Pact: https://climate-pact.europa.eu/index_en

Harnessing Talent Platform: https://ec.europa.eu/regional_policy/policy/communities-and-networks/harnessing-talent-platform_en

BIOEAST TWG Food Systems: <https://bioeast.eu/food/>

CEE2ACT Poland Hub: <https://www.cee2act.eu/hub/poland/>

Info: <https://en.iung.pl/?s=hub>

<https://www.youtube.com/watch?v=36Vffe62Boc>

AGROECOLOGY Partnership





In June 2026 ERDN has been accepted to join the Enlarged Stakeholder Board (**ESB**) of the AGROECOLOGY Partnership. European Rural Development Network has been assigned to the **College of Civil Society**.

The AGROECOLOGY Partnership, funded by Horizon Europe, unites the European Commission and partners across 31 Member States, Associated Countries, and Third Countries. The Partnership supports an agriculture sector that is fit to meet the targets and challenges of climate change, biodiversity loss, food security and sovereignty, and the environment, while ensuring a profitable and attractive activity for farmers.

Partnership relies on a common vision to “Team-up and unlock the transition to agroecology so that farming systems are resilient, productive and prosperous, place-sensitive, as well as climate, environment-ecosystem, biodiversity and people-friendly by 2050”. In order to achieve impact on people, policies, planet, productivity and prosperity, we need a change in paradigm in science, policy and practice to support:

- A thriving agricultural sector, which is economically viable, attractive to young generations and well connected to society.
- New as well as improved farming practices, products and services that contribute to positive ecological, climate and environmental impacts of agri-food systems.
- The strengthening of social capital, values, networks, skills and awareness on AE.
- Evidence-based, systems-oriented governance & policy making with governments and institutions and thereby policies that are more open, flexible, participatory, risk sharing and therefore capable of enabling transformative changes.

As a member of ESB, ERDN will:

- • Be part of a network of stakeholders, present challenges before the Partnership;
- • Participate to activities defined within colleges;
- • Be informed of resources and events organized by the Partnership;
- • Gain early access to AGROECOLOGY outputs and collaboration opportunities.

More about the Partnership: <https://www.agroecologypartnership.eu/en>

For the ERDN participation in the Partnership please contact: Barbara Wieliczko,
barbara.wieliczko@erdn.eu

Our projects





INSPIRE

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

Project overview

The INSPIRE project (Horizon Europe, 2024–2027) seeks to strengthen social inclusion, wellbeing, and sustainable development in European rural areas through the co-development of innovative governance frameworks and Smart Villages labs. Within the consortium, the European Rural Development Network (ERDN) serves as a bridge between academic research and rural communities, ensuring that evidence-based insights inform both policy and practice. ERDN's contribution focuses on field-based piloting and knowledge sharing across Central and Eastern Europe.

In Poland, a pilot case conducted in the Parczew district illustrates key vulnerabilities faced by rural populations: economic insecurity, limited access to healthcare, demographic aging, digital exclusion, weak transport infrastructure, and agricultural instability. Despite these challenges, communities demonstrate resilience through social cohesion, grassroots initiatives, reliance on public institutions, and intergenerational solidarity. Observational data and narrative research reveal both coping strategies and systemic barriers that hinder wellbeing and inclusion.

ERDN integrates these findings into the broader INSPIRE framework by promoting territorial typologies, facilitating stakeholder dialogue in Smart Village labs, and contributing to the development of a Rural Social Inclusion Policy Dashboard. The network's activities support capacity-building for local actors, strengthen social economy initiatives, and provide evidence for EU-level debates on the future of rural areas. The results inform both the Long-Term Vision for Rural Areas and the Rural Pact, while also contributing to the transformation of food systems and inclusive governance models in Europe.



Project facts

Call:	HORIZON-CL6-2023-COMMUNITIES-01
Project starting date:	1 October 2024
Duration	36 months
Project leader:	WHITE RESEARCH SRL, Belgium

Project links

Website: <https://inspireprojecteu.eu>

LinkedIn: <https://www.linkedin.com/company/inspire-project-eu/posts/?feedView=all>

Facebook: <https://www.facebook.com/profile.php?id=61569429994625>





RIBES

Regional Inclusive Biobased Entrepreneurship Solutions

Project overview

The RIBES project (Regional Inclusive Biobased Entrepreneurship Solutions) is a three-year initiative funded under the Horizon Europe programme, running from 1 March 2024 to 28 February 2027, with a budget of approximately EUR 5 million. The project's main objective is to support the transformation of economies in European regions characterised by low levels of innovation in the bioeconomy sector. RIBES aims to accelerate the transition from fossil-based, linear production systems towards a circular and dynamic bioeconomy that integrates inclusive social dimensions.

The project addresses several key challenges, including limited awareness of the bioeconomy, insufficient market frameworks, a lack of necessary skills among local stakeholders, and underdeveloped value chains and infrastructure. To tackle these issues, RIBES adopts a bottom-up, multi-actor methodological approach, fostering collaboration among rural communities, universities, administrations, and entrepreneurs. At the core of this approach are the Multi-actor Transformative Forums (MTFs), which serve as platforms for the co-creation of inclusive, context-specific business and governance models.

As a concrete outcome, the project will develop the "RIBES Toolkit," providing practical solutions such as collaborative models, policy monitoring systems, environmental protection plans, and support mechanisms for small-scale, circular entrepreneurship. Social sustainability is treated as a priority throughout the project, with particular attention to ensuring equal participation of all actors, including vulnerable groups, through dedicated training and business support activities.

Ultimately, RIBES seeks to strengthen local innovation, reinforce bio-based value chains, and stimulate socio-economic development in rural and peri-urban areas, while ensuring the scalability and replicability of its results at both national and European levels.



Project facts

Call:	HORIZON-CL6-2023-GOVERNANCE-01
Project starting date:	1 March 2024
Duration	36 months
Project leader:	INCE INIZIATIVA CENTRO EUROPEA SEGRETARIATO ESECUTIVO

Project links

Website: <https://ribesproject.eu/>

LinkedIn: <https://www.linkedin.com/company/ribes-project/>

Facebook: <https://www.facebook.com/profile.php?id=61557477905411>





VISION4FOOD

EnVISIONing an integrated quadruple helix and RRI framework for FOOD system transformation and regional innovation ecosystem enhancement

Project overview

VISION4FOOD seeks to strengthen the sustainability and resilience of EU food systems by developing innovative governance models that support better-informed decision-making while fostering social engagement and innovation. The project brings together five European regions — Finland, Spain, Italy, Greece, and Poland — each representing a different level of innovation ecosystem maturity. Within this framework, the participating regions will receive support to reinforce their role in establishing Food Innovation Platforms (FIPs), promoting cooperation among Quadruple Helix stakeholders and enabling the identification and scale-up of innovations driving the transformation of food systems.

The project's methodology is built around the co-creation of Research and Innovation (R&I) strategies, with a strong focus on open science and Responsible Research and Innovation (RRI) principles. Through its multistakeholder approach and the integration of dedicated tools and services, VISION4FOOD will provide each region with the support needed for knowledge exchange, networking, and priority-setting — materialized through an acceleration agenda tailored to the specific needs and priorities of each region, ultimately facilitating the shift toward a more innovative and inclusive food system. Throughout the project, the performance of the governance models will be continuously monitored and evaluated, generating solid evidence of their impact.



Project facts

Call:	HORIZON-CL6-2024-GOVERNANCE-01-2
Project starting date:	1 January 2025
Duration	36 months
Project leader:	WHITE RESEARCH SRL (WR), Belgium

Project links

Website: <https://vision4foodproject.eu/>

LinkedIn: <https://www.linkedin.com/company/vision-4-food-project-eu/>

Facebook: <https://www.facebook.com/profile.php?id=61572975586728>

Instagram: <https://www.instagram.com/vision4foodprojecteu/>





GRANULAR

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

Project overview

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, and they do not provide sufficient insights into the dynamics, drivers and fluidity of the diverse rural-urban relations and identities that characterise ruralities across Europe. Departing from an updated conceptualisation of rurality based on the multi-dimensional nature of contemporary rural-urban interrelations and interdependencies, GRANULAR has spent four years building the fine-scale evidence base that such a conceptualisation requires.

Working through a network of Multi-Actor Labs, the project generated novel datasets using remote sensing, crowd-sourced data, mobile phone data, web-scraping, participatory sensing, mixed-methods surveys and machine-learning classifications. These were 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), measuring resilience, well-being, quality of life and attractiveness. The results were consolidated into the Rural Compass, a framework that takes into account the factors affecting rural communities and their functional characteristics and informs policymakers and rural actors in the design of tailored rural policies. The datasets, visualisations and tools produced are openly available through the GRANULAR Digital Platform, an online interface for exploring the project's data and indicators at different levels of granularity, from local to macro-regional. Alongside the platform, the Knowledge Transfer Accelerator has served as a virtual space in which rural actors exchange knowledge and solutions through webinars, question and answer sessions and discussion panels.

The main results of the project were presented at the joint GRANULAR and RUSTIK Final Conference, held on 24 and 25 June 2026 at the Fondation Universitaire in Brussels, which brought together project partners, policymakers, practitioners and rural stakeholders around functional rural areas, new territorial typologies, innovative data sources and the practical tools that support evidence-based policymaking. One message running through the event was that better data on its own does not produce better policy, since public institutions also need the capacity to interpret that evidence and turn it into decisions that answer local needs. GRANULAR concludes in September 2026.

The European Rural Development Network is one of the 24 organisations in the GRANULAR consortium and one of the two European rural networks in the partnership. Its contribution has centred on the Replication Labs and on translating the work of the Labs into knowledge that rural actors can use. While the seven Living Labs (France, Italy, the Netherlands, Poland, Spain, Sweden and the United Kingdom) co-designed and tested new methods of data collection in their own territories, the nine Replication Labs (Albania, Finland, Greece, Italy, Latvia, Lithuania, Moldova, Romania and Serbia) examined how far those methods, indicators and tools travel to other territorial contexts. Their strong presence in Central, Eastern and South-Eastern Europe gives GRANULAR a perspective that remains under-represented in EU-level rural research. Within Work Package 6, ERDN coordinates the preparation of the GRANULAR Practice Abstracts, short practice-oriented briefs that turn the experience of individual Labs into a format directly usable by rural actors, local authorities and advisory services.



Project facts

Call:	HORIZON-CL6-2021-COMMUNITIES-01-01
Project period:	1 October 2022 – 30 September 2026
Project leader:	Mediterranean Agronomic Institute of Montpellier, France

Project links

Website: <https://www.ruralgranular.eu/>

Digital Platform: <https://repository.ruralgranular.eu/>

Facebook: <https://www.facebook.com/ruralgranular>

X: <https://twitter.com/ruralgranular>

LinkedIn: <https://www.linkedin.com/company/87389717>

YouTube: <https://www.youtube.com/@ruralgranular>

Zenodo: <https://zenodo.org/communities/granular>



Mediterranean Agronomic Institute of Montpellier
FRANCE



Nordregio
SWEDEN



Wageningen University
THE NETHERLANDS



International Institute for Applied Systems Analysis
AUSTRIA



University of Pisa
ITALY



Agricultural University of Athens
GREECE



European Association for Innovation on Local Development
BELGIUM



Czech University of Life Sciences
CZECHIA



French National Centre for Scientific Research - Université Paris Cité
FRANCE



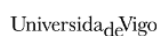
European Rural Development Network
POLAND



Thünen Institute of Rural Studies
GERMANY



Ecorys
BELGIUM



University of Vigo
SPAIN



Partnership for Rural Europe
BELGIUM



Region Västernorrland
SWEDEN



Gemeente Opsterland
THE NETHERLANDS



Distretto Rurale della Val di Cecina
ITALY



Natural Resources Institute
FINLAND



Pays Pyrénées Méditerranée
FRANCE



Politechnika Koszalin
POLAND



Mediterranean Agronomic Institute of Chania
GREECE



University of Milan
ITALY



University of Southampton
UNITED KINGDOM



James Hutton Institute
UNITED KINGDOM



ESIRA

Enhancing Social Innovation in Rural Areas

Project overview

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 facts

Call:	HORIZON-CL6-2023-COMMUNITIES-01-1
Project starting date:	1 January 2024
Duration	48 months
Project leader:	Universidad de Burgos

Project links

Website: <https://www.esira.eu>

LinkedIn: <https://www.linkedin.com/company/esira-project>

Facebook: <https://www.facebook.com/ESIRAProject>

Instagram: [@esira_project](https://www.instagram.com/esira_project)



**Funded by
the European Union**

ESIRA has received funding from the European Union Horizon Europe research and innovation programme under Grant Agreement No. 101136253.

Views and opinions expressed, however, are those of the author(s) only and do not necessarily reflect those of the granting authority. Neither the European Union nor the granting authority can be held responsible for them.



GRACE

Growing Climate Resilience in Remote rural Areas through Community Empowerment

Project overview

Europe is warming faster than any other continent, with 2023 being the hottest year on record. This rapid Climate Change (CC) increases the frequency of extreme weather events such as floods, wildfires, and droughts, endangering people, infrastructure, ecosystems, and the economy. From 1980 to 2020, climate disasters cost the EU €12 billion annually, and future hazards could raise this figure to €170 billion per year. In response, the European Commission has enacted policies like the EU Green Deal, the Adaptation Strategy, and the Horizon Europe Mission on Climate Adaptation, all aiming to boost resilience, particularly in rural areas that are disproportionately vulnerable due to their dependence on natural resources and exposure to diverse climate risks. Rural areas, especially Remote Rural Areas (RRAs), face even greater obstacles like lower institutional capacity, underinvestment, and depopulation, limiting their ability to adopt climate adaptation measures. Covering 50% of the EU's rural territories, RRAs urgently need empowerment to tackle CC effectively. GRACE project focuses on addressing the needs of rural and small/medium communities localised in EU RRAs to adapt and build resilience against CC by strengthening their capacities and empowering them to become actors of change and take transformative action. A consortium of 26 organizations from 16 countries leads the project, with five demonstrator regions (DRs) in Portugal, Italy, Austria, Denmark, and Sweden co-developing innovative climate adaptation solutions centered on nature-based approaches. These solutions aim to deliver broad social and economic benefits. Then, five replicator regions (RRs) in Greece, Slovakia, Ireland, Latvia, and Ukraine will prepare for adopting the innovations developed by the DRs. Finally, GRACE will also engage observer regions (ORs) to follow and potentially replicate these solutions, fostering widespread CC adaptation across Europe's rural areas.



Project facts

Call:	HORIZON-MISS-2024-CLIMA-01
Project starting date:	1 October 2025
Duration	48 months
Project leader:	Fondazione Centro Euro-Mediterraneo sui Cambiamenti Climatici (CMCC)

Project links

Website: <https://grace-project.eu/>

LinkedIn: <https://www.linkedin.com/company/grace-climate/posts/?feedView=all>



Funded by the European Union (grant agreement N° 101214172). Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Climate, Infrastructure and Environment Executive Agency (CINEA). Neither the European Union nor the granting authority can be held responsible for them.



LANDSHIFT

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

Project overview

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.



Project facts

Call:	HORIZON-CL6-2024-CLIMATE-01
Project starting date:	1 November 2024
Duration	36 months
Project leader:	Eratosthenes Centre of Excellence, Cyprus

Project links

Website: <https://landshift.eu/>

LinkedIn: <https://www.linkedin.com/company/landshift/>

Bluesky: <https://bsky.app/profile/landshift.bsky.social>

Youtube: <https://www.youtube.com/@LandShift>





NEMESIS

NEMESIS

Soil Health Living Lab Network for Combating Desertification in the Mediterranean

Project overview

Nemesis strategically establishes five autonomous yet interconnected user-oriented, sustainable Living Labs (LLs) in Cyprus, France, Italy, North Africa (Tunisia/Algeria), and Spain, to combat desertification and improve soil health across the Mediterranean. These LLs will evolve into a multi-disciplinary virtual LL, with primary goal to incorporate all relevant soil health descriptors across a spectrum of heterogeneous real-life environments. The Nemesis community envisions itself as a potent hub of innovative solutions addressing adverse soil degradation issues in the region and beyond, and supporting the Soil Monitoring Law at multiple levels. Nemesis seeks to promote effective, sustainable land management practices and tackle the various societal challenges associated with soil health deterioration in the region. A comprehensive set of tools and frameworks will be established. These are designed to secure the long term viability and optimal functionality of the LLs, with the aim to advance LLs' pilot sites (60 already identified at the proposal stage) into Lighthouses where they can showcase solutions and exemplary achievements. A core principle guiding Nemesis is its commitment to co-creation and co-development. Nemesis will also emphasize the active engagement of local communities and citizens, with a special focus on representing future generations to build a foundation of environmentally conscious citizens. Nemesis facilitates the exchange of knowledge and fosters the development of novel and adaptable tools that are essential for informed decision-making and policy shaping. The project recognizes the importance of policy creation in addressing the complex challenges it seeks to tackle. This ensures that the innovative solutions generated within the Nemesis LL network will influence broader policy frameworks, fostering a more comprehensive and coordinated approach to combating desertification, among other objectives.



Project facts

Call:	HORIZON-MISS-2024-SOIL-01
Project starting date:	1 October 2025
Duration	48 months
Project leader:	Eratosthenes Centre of Excellence, Cyprus

Project links

Website: <https://www.nemesis-soil.eu/>

LinkedIn: <https://www.linkedin.com/showcase/nemesis-soil/>





SOILSCAPE

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

Project overview

“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 100 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. 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 Member 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 facts

Call:	HORIZON-MISS-2023-SOIL-01-07
Project starting date:	1 June 2024
Duration	48 months
Consortium leader:	French Soil Science Society
Project leader:	ASSOCIATION FRANCAISE POUR L'ETUDE DU SOL (AFES)

Project links

Website: <https://soilscape.eu/>

Facebook: <https://www.facebook.com/SOILSCAPE/>

LinkedIn: <https://www.linkedin.com/company/soilscape-project/>

Instagram: <https://www.instagram.com/soilscape.project/>

X: https://x.com/SOILSCAPE_EU/status/1879088029299781840

Bluesky: <https://bsky.app/profile/soilscape.bsky.social>



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thERBN

Thematic European Rural Bioeconomy Network

Project overview

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.



Project facts

Call:	HORIZON-CL6-2024-GOVERNANCE-01-9
Project starting date:	1 January 2025
Duration	36 months
Consortium leader:	Ghent University

Project links

Website: <https://therbn.eu/>

Facebook: <https://www.facebook.com/therbn.eu/>

LinkedIn: <https://www.linkedin.com/company/therbn/>





SoilTribes

SoilTribes - Glocal Ecosystems Restoring Soil Values, Roles and Connectivity

Project overview

SoilTribes is a Horizon Europe project focused on building a glocal movement for soil regeneration. Its aim is to establish, activate and empower ecosystems that restore soil values, roles and connectivity through “back to Earth” narratives that bridge science, technology, arts and community-driven action. The project strengthens soil literacy and encourages citizens, organisations and local authorities to recognise soil as a living resource that supports food security, biodiversity, climate resilience, culture, economy and well-being.

The project responds to the urgent need for stronger soil protection and regeneration by connecting research, education, public administration, business, civil society, creative sectors and local communities. Through this multi-actor approach, SoilTribes translates soil science into accessible narratives, supports behavioural change and promotes long-term soil stewardship.

The ERDN team cooperates closely with Gmina Michałowice in the Mazowieckie region of Poland, which is a member of the SoilTribes consortium. A dedicated SoilTribes study visit in Poland, organised within the Twinning Programme, brought together municipalities, academic institutions and civil society organisations from Poland and Italy to exchange knowledge and practices on sustainable soil management. The visits in Michałowice and Scafati focused on soil restoration, biodiversity protection, circular economy practices and climate resilience.

Activities presented during the Polish visit included school visits linked to eco-education and energy-efficient infrastructure, farm demonstrations on sustainable agriculture, workshops and civic dialogues, and a community planting event connected with the creation of a Miyawaki Forest in Opacz-Kolonia. The visit supported the priorities of the EU Mission Soil by fostering soil literacy, participatory action and practical local solutions such as composting, urban greening and promotion of soil biodiversity.



Project facts

Call:	HORIZON-MISS-2023-SOIL-01-07 - Back to earth
Project starting date:	1 November 2024
Duration	36 months
Consortium leader:	INOVA+ - INNOVATION SERVICES, SA, Portugal

Project links

Website: <https://soiltribes.eu/>

LinkedIn: <https://www.linkedin.com/company/soiltribes>

Instagram: <https://www.instagram.com/soiltribes/>

Youtube: https://www.youtube.com/channel/UCnkQxBsysUC_TWpJ5GNDSmw

Spotify: <https://open.spotify.com/user/31rwrajr4lrqjwbxgrsck4biw34?si=4c92a10a326c458f&nd=1&dlsi=5b8ae0e67c504f09>




**TOOLS
4CAP**
Tools4CAP
Innovative Toolbox empowering effective CAP governance towards EU ambitions

Project overview

Tools4CAP - Innovative Toolbox empowering effective CAP governance towards EU ambitions is a Horizon Europe Coordination and Support Action aimed at strengthening the design, implementation, monitoring and evaluation of the Common Agricultural Policy (CAP) Strategic Plans. The project responds to the New Delivery Model introduced under Regulation (EU) 2021/2115, which brought major changes to CAP governance through national Strategic Plans and new requirements for performance monitoring, review and evaluation. Tools4CAP supports Member States in implementing the CAP Strategic Plans 2023-2027 and in preparing the next generation of post-2027 Strategic Plans. The project focuses on innovative methods and tools that can help policymakers select solutions adapted to different national and regional contexts, while contributing to the EU's sustainability, resilience and Green Deal ambitions for agri-food systems.

The project is coordinated by Ecorys and brings together a consortium of partner organisations from across Europe. According to the official project website,

Tools4CAP develops and promotes innovative solutions in three main areas: quantitative modelling tools for ex-ante and ex-post evaluations, participatory and multi-level governance decision tools, and novel data and monitoring solutions. The project provides an inventory of methods and tools used across EU Member States, methodological guidance, good-practice resources and capacity-building activities to strengthen science-policy interfaces. A key element of the project is the Tools4CAP inventory of methods and tools, which collects existing approaches used for the design, implementation and monitoring of CAP Strategic Plans. The inventory is based on desk research and interviews with relevant actors at local, national and EU levels, and it is updated during the project to include new tools, approaches from previous programming periods, scientific tools and relevant solutions from outside the EU.

Tools4CAP also implements a Replication Lab through case studies designed to demonstrate the potential and limitations of innovative tools in different Member State contexts. The project currently presents 12 case studies in 11 countries, covering Czechia, France, Greece, Germany, Hungary, Ireland, Italy, the Netherlands, Poland, Slovenia and Spain. These case studies address challenges such as evidence-based target setting, stakeholder involvement, integration of multiple data sources, monitoring, evaluation and scalability of tools. The project's capacity-building dimension is developed through the Tools4CAP Academy, which provides a framework for peer learning and training. The Academy is designed to support end users, including ministries, managing authorities, paying agencies and other stakeholders involved in CAP Strategic Plan processes, in choosing and applying innovative methods and tools.

Within the Tools4CAP project, ERDN is involved in identifying the state of the art, co-designing participatory and multi-level governance decision tools, and communication, dissemination and exploitation activities. On the official Tools4CAP partner page, ERDN is listed as a Polish partner and its role is linked to WP1, WP3 and WP6.

In Tools4CAP, ERDN is represented not only by the ERDN Team Poland, but also by six institutional members of the Network:

- Lithuanian Centre for Social Sciences, Institute of Economics and Rural Development, Lithuania.
- Agrarkozgazdasági Intézet Nonprofit Kft (AKI), Hungary.
- University of Latvia, Latvia.
- Institute of Agricultural Economics, Bulgaria.
- Institute of Agricultural Economics - Romanian Academy, Romania.
- Slovenská poľnohospodárska univerzita v Nitre, Slovakia.



Project facts

Call:	HORIZON-CL6-2022-GOVERNANCE-01-05
Project period:	2023-2027
Project leader:	ECORYS, Belgium

Project links

Website: <https://www.tools4cap.eu/>

LinkedIn: <https://www.linkedin.com/company/tools4cap/>

Instagram: <https://www.instagram.com/soilscape.project/>

X: <https://x.com/TOOLS4CAP>

Youtube: <https://www.youtube.com/@Tools4CAP>



AGRINEXT

Project overview

AGRINEXT responds to the profound transitions currently reshaping European agriculture — climate change, biodiversity loss, digitalisation, and generational renewal are all redefining the skills and competences the sector needs. Despite this, lifelong learning (LLL) systems remain fragmented, weakly integrated into Agricultural Knowledge and Innovation Systems (AKIS), and poorly aligned with emerging demands. Training provision is often standardised, difficult to access for underrepresented groups, and disconnected from policy and governance frameworks. Without systemic change, farmers, advisors, and rural workers risk lacking the competences needed to ensure sustainable, competitive, and resilient farming in line with the Green Deal and CAP objectives. To address this challenge, AGRINEXT develops an integrated, inclusive, and future-oriented model for agricultural lifelong learning. The project brings together foresight, co-creation, digital innovation, and governance reform into a coherent and adaptive system, tested through 10 pilots across Europe. Its key outputs include: the FutureFit Competence Model, designed to anticipate emerging skills; a benchmarking framework mapping LLL systems across more than 20 countries; modular learning pathways co-designed with farmers and advisors; the AgriAI-Assistant, the first multilingual, inclusive, AI-powered learning tool for agriculture; the AgriLLL-Gov Framework, aimed at embedding lifelong learning into CAP and AKIS governance; and the AgriLLL-Cred System, a recognition and incentive mechanism linking learning outcomes to CAP rewards and micro-credentials. AGRINEXT is carried out by a strong, interdisciplinary consortium of 21 partners from 12 countries, combining expertise in agronomy, education sciences, digital technologies, social sciences, and policy analysis. By validating its innovations with over 1,500 learners across highly diverse agroecological and institutional contexts, the project ensures both local relevance and EU-wide scalability — turning lifelong learning into a genuine driver of competitiveness, sustainability, and resilience for rural Europe.

Project facts

Call:	HORIZON-CL6-2025-03
Project starting date:	1 October 2026
Duration	54 months
Project leader:	GEOPONIKO PANEPISTIMION ATHINON

ECOPESIA

Project overview

ECOPESIA envisions European agriculture as a multifunctional system — one that goes beyond food production to actively restore ecosystems and strengthen climate resilience. Current remuneration mechanisms rewarding farmers for delivering public goods, notably Payments for Environmental Services (PES) implemented through CAP eco-schemes, continue to face technical, financial, institutional, and socio-economic barriers that limit progress toward environmental objectives. To overcome these barriers, ECOPESIA brings together a collaborative consortium of 20 partners spanning the entire environmental services supply chain. Through a participatory approach, the project co-creates and demonstrates PES schemes that are financially sustainable, digitally enabled, and socially inclusive — grounded in verifiable results and designed to leverage private funding alongside public support. Dedicated digital tools for monitoring and administration will be deployed, complemented by robust, jointly designed governance frameworks. The project will test its approach through eight pilots across six countries, showcasing result-based PES in representative agroecosystems and socio-economic settings, using both collective and spatially coordinated approaches. This ensures transparent and fair remuneration for farmers, directly linked to measurable environmental outcomes. ECOPESIA's innovations move beyond existing PES models by introducing harmonised on-farm indicators, dedicated digital management tools, and an open call for new monitoring technologies. The project actively engages farmers, businesses, policymakers, NGOs, technology developers, SMEs, and Social Sciences and Humanities experts throughout participatory co-design, pilot implementation, capability building, and knowledge transfer.

Project facts

Call:	HORIZON-CL6-2025-03
Project starting date:	1 September 2026
Duration	54 months
Project leader:	CENTRO DE INVESTIGACION Y TECNOLOGIA AGROALIMENTARIA DE ARAGON

ERDN and ERDN supported declarations





The Right to Stay Starts with Being Seen

Five recommendations from Central and Eastern Europe's rural research network, synthesising evidence from the Horizon Europe projects GRANULAR, INSPIRE, ESIRA and Tools4CAP and the legacy of SHERPA. Summary below; the full position follows.

WHY DEPOPULATION IN CENTRAL AND EASTERN EUROPE IS STRUCTURALLY DIFFERENT

Post-socialist legacy

The rapid dismantling of collective rural services in the 1990s–2000s left a critically low service baseline before the demographic crisis began.

Transnational, selective emigration

CEE regions lose people to other Member States — young people and women first — placing the problem beyond the reach of national policy alone.

Double peripherality, statistical invisibility

NUTS3 averages absorb local crises into stronger county-level figures, so communities neglected nationally also remain invisible to EU instruments.

A self-reinforcing capacity gap

The weakest municipalities cannot staff or co-finance the funds nominally addressed to them, so EU instruments bypass the territories that need them most.

FIVE RECOMMENDATIONS FOR THE RIGHT TO STAY STRATEGY

- 1 Base needs assessment on data below NUTS3.** Harmonise indicators at LAU and sub-municipal level, building on GRANULAR's Rural Compass and the INSPIRE Rural Social Inclusion Policy Dashboard.
- 2 Learn from places that succeed.** Map and transfer the practice of regions that reversed decline with limited resources, using the replication methodology piloted by ESIRA across nine regions in seven countries.
- 3 Deliver technical support that reaches the local level.** Provide expert teams and training for local actors in their own languages, on the model of the Talent Booster Mechanism and the Tools4CAP Academy.
- 4 Introduce Right-to-Stay proofing of EU sectoral policies.** Apply an ex ante comply-or-explain assessment aligned with the LTVRA and the Rural Pact, and ring-fence LEADER/CLLD in the next CAP.
- 5 Calibrate funding to fiscal capacity.** Anchor support in the National and Regional Partnership Plans, differentiate co-financing by beneficiaries' revenue potential, and programme for the 15–25-year horizon of territorial transformation.

THE EVIDENCE BASE

GRANULAR

Sub-NUTS3 data and the Rural Compass for the Long-Term Vision for Rural Areas

INSPIRE

Rural inclusion dashboard; the Košice pilot confirming double peripherality

ESIRA

Social economy in the Bieszczady Mountains reversing the outflow of youth and women

Tools4CAP

Academy and Capacity Building Hub training local actors in national languages

SHERPA

Durable science-society-policy interfaces that supplied evidence to the LTVRA

ERDN stands ready to contribute its tested toolkit — sub-regional data, territorial typologies, multi-level governance tools and capacity-building models — to the design and implementation of the strategy.

1. Diagnosis: why regions in Central and Eastern Europe are losing people

Many European regions, particularly in Central, Eastern and Southern Europe, are losing their youngest and best-educated citizens. This outflow weakens public administration, local entrepreneurship and long-term economic prospects, and the Draghi Report confirms that regional convergence, once regarded as a success of cohesion policy, has stalled or reversed across many territories (Tudor et al., 2019). In the CEE countries, however, the process has features that are structurally different from the Western European experience.

Post-socialist legacy. The dismantling of collective rural services and state enterprises in the 1990s and 2000s was dramatically more rapid than anything experienced in Western Europe. The baseline level of service provision in many CEE communities was therefore critically low even before the demographic crisis of recent decades was superimposed upon it.

Transnational and selective emigration. Unlike Western European rural areas, which lose population primarily to domestic urban centres, CEE regions lose people to other EU Member States: Germany, Austria, the Netherlands, Scandinavia. The outflow is strongly dominated by young people and women, leaving behind ageing, predominantly male populations with acute care needs. Depopulation thus acquires a structural, cross-border dimension that national policies cannot resolve on their own.

Double peripherality and statistical invisibility. Many CEE communities are peripheral in both the national and the EU context, neglected by national governments and beyond the reach of effective EU instruments. Part of the problem is measurement: where NUTS3 serves as the statistical reference for needs assessment, small municipalities undergoing dramatic depopulation are absorbed into stronger county-level averages and rendered invisible to policy. The Horizon Europe project GRANULAR (Giving Rural Actors Novel data and re-Useable tools to Lead public Action in Rural areas, GA 101061068), in which the ERDN network participates as a partner, documents that the prevailing definitions of rural areas based on population density or size fail to capture the dynamics and diversity of rural realities. With new sub-regional datasets and the Rural Compass tool, developed in support of the Long-Term Vision for Rural Areas (LTVRA), GRANULAR demonstrates that this invisibility is methodologically solvable, provided there is a political decision to collect and use data below the NUTS3 level.

A self-reinforcing administrative and financial gap. Small municipalities frequently lack the staff required to design and implement complex EU-funded strategies; weaker capacity leads to lower fund absorption, which in turn further erodes capacity. Co-financing requirements calibrated to well-resourced regions mean that the weakest CEE municipalities may be unable to take up support even after a grant has been awarded. As a result, EU instruments designed for strong regions routinely bypass the territories that need them most. These mechanisms are documented in the field activities of ERDN-linked projects in the region, from the INSPIRE pilot in Košice (Slovakia), which confirms the thesis of double peripherality, to ESIRA's work in the Bieszczady Mountains (Poland), which shows that a social economy grounded in local networks can reverse the selective outflow of young people and women where conventional investment support fails (Giuliani & Wieliczko, 2018).

Framing matters. Following the findings of the ESPON ESCAPE project taken up by SHERPA, interventions addressed to depopulating areas should be framed in terms of transition, transformation and restructuring rather than backwardness or failure (Chmieleński & Wieliczko, 2023). For CEE regions historically burdened by a narrative of peripherality, this distinction is operational, not merely semantic: it determines whether the Right to Stay is read as a remedial or a developmental instrument.

2. Five recommendations

Recommendation 1: Data below NUTS3. Needs assessment should be conducted at a territorial resolution that reflects local realities, using harmonised, EU-comparable indicators and territorial classifications that capture the functional reality of these areas. NUTS3 averages routinely mask local demographic crises and must not remain the reference level for allocating support. Ready-made building blocks exist: the sub-regional indicators and the Rural Compass developed by GRANULAR (GA 101061068), and the Rural Social Inclusion Policy Dashboard developed by INSPIRE (GA 101136592), provide an operational basis for harmonising data at the LAU and sub-municipal levels.

Recommendation 2: Learning from places that succeed. Regions that have reversed depopulation trends should be identified and showcased through the mapping of successes, the distillation of transferable practices, mutual learning and policy laboratories. Cases from less affluent regions that achieved results within a constrained resource environment are particularly valuable. The ESIRA project (GA 101136253) is building exactly such a methodology for mapping, scaling and replicating bottom-up social economy initiatives across nine regions in seven countries (Gedminaitė-Raudonė & Vidickienė, 2020).

Recommendation 3: Technical support that reaches the local level. Regions wishing to design or improve strategies against depopulation require concrete assistance modelled on the Talent Booster Mechanism: expert teams, methodological guidance and support for integrated strategies. The strategy should embed a firm commitment, in both funding and political will, to train local policy actors in their own languages, including in how to strengthen the local economy and how to identify and secure available funds. The Tools4CAP Academy and Capacity Building Hub (GA 101086311) already provide a tested model for such training in national languages. Unless local actors are trained and engaged, and unless support genuinely reaches below the regional capitals, interventions at the local level will make little impression.

Recommendation 4: Right-to-Stay proofing of EU policies. The strategy should introduce an ex ante assessment ensuring that sectoral policies do not inadvertently deepen depopulation and the outflow of young people, operationalising the Do No Harm to Cohesion principle with a mandatory comply-or-explain mechanism. Full alignment with the LTVRA, the Rural Pact and the Rural Action Plan is indispensable, and thirty-five years of LEADER/CLLD experience should be protected through explicit ring-fencing in the next CAP.

Recommendation 5: Funding calibrated to fiscal capacity. Funding for measures that overcome barriers to staying should be anchored in the National and Regional Partnership Plans (Specific Objective 1.1) and complemented by the European Competitiveness Fund (including Horizon Europe), Erasmus+, AGORA-EU, the CEF and support for Smart Specialisation Strategies. Crucially, co-financing requirements must be differentiated according to the revenue potential of beneficiaries; otherwise the strategy will reproduce the self-reinforcing gap in which EU funds bypass the territories that need them most. Programming should also acknowledge that territorial transformation takes 15–25 years, a horizon that seven-year programming cycles alone cannot accommodate.

3. What the ERDN network offers

This position has been prepared by experts from the countries of Central and Eastern Europe affiliated with the European Rural Development Network (ERDN), which has, since 2002, brought together the region's leading research centres on rural development. The recommendations synthesise the work of four ongoing Horizon Europe projects, GRANULAR, INSPIRE, ESIRA and Tools4CAP, together with the legacy of the SHERPA project (GA 862448), which established durable science-society-policy interfaces and supplied evidence to the Long-Term Vision for Rural Areas.

The ERDN network declares its readiness to contribute this tested toolkit, sub-regional data, territorial typologies, multi-level governance tools and models for building local capacity, to the design and implementation of the Right to Stay Strategy. Lasting change will require not only a right to be heard in consultations but genuine local powers and resources, and it will depend on grounding European policy in verified knowledge of the real living conditions of specific places. It is precisely this knowledge that the region's research networks stand ready to provide.

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Who we are and what we do

The European Rural Development Network (ERDN) has, since 2002, brought together leading research centres studying rural development in Europe, with a particular focus on its Central, Eastern and South-Eastern countries. The network integrates the efforts and competences of its member institutions through joint research, European projects, including the Horizon Europe actions cited in this position, annual scientific conferences and the publication series *Rural Areas and Development*. ERDN supports evidence-based policy for agriculture and rural areas by connecting research with practice across the region.

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The projects cited received funding from the European Union under Horizon Europe (GRANULAR, GA 101061068; INSPIRE, GA 101136592; ESIRA, GA 101136253; Tools4CAP, GA 101086311) and Horizon 2020 (SHERPA, GA 862448).

Declaration on the future of rural areas and rural development policy in the EU

December 2024

Rural Pact Coordination Group Declaration

Short version



I. The future of rural areas is a concern of our whole society

- > They play a **pivotal role in the EU economy**, hosting the vital resources on which key sectors depend. They are important in **addressing climate change, enriching the EU's social fabric, preserving European traditions and cultural diversity and securing our borders.**

II. Rural challenges need urgent responses

- > Challenges: **demography** (depopulation and ageing), low **service provision**, digital, green, and economic **transitions**, and **constrained human and financial resources.**
- > Responses: **investments** in local capacities, infrastructure, services, and innovation; **strengthened Community-led Local Development (CLLD)** and **simplified funding** mechanisms.

III. The future rural development policy must take the needs of rural areas more seriously

- > A **holistic approach** to rural development and **coordinated funding** from EU, national and regional sources;
- > Reinforced application of **rural proofing** to ensure all policies consider rural needs;
- > **Compulsory minimum allocation** – e.g. at least 30% of total EU long-term budget – to rural development (beyond agriculture). Alternative: set-up of a **dedicated European Rural Development Fund (ERUDF)**;
- > Wider use of **community-led initiatives** – including LEADER/CLLD and Smart Villages – through a mandatory allocation of at least 10% of rural development funding.

IV. Turning the long-term rural vision into a concrete strategy and realising the Rural Pact model

- > Translation of the EU rural vision into **actionable rural development strategies at national, regional and local levels**, aligned with EU priorities and formulated in partnership with stakeholders;
- > **Robust horizontal and vertical coordination** (the Rural Pact model) through designated government members,

compulsory inter-ministerial coordination groups (national/regional levels) and compulsory coordination among relevant Directorates-General (EU level).

V. Building local capacity and creating local ownership

- > **Technical support, networking, capacity building** for local governments, civil society organisations, local communities, and small businesses to navigate funding mechanisms and implement innovative projects;
- > **Seed funding** for project preparation and idea development at local level, and **simplified application processes**, including results-based payments and performance-based funding models.

VI. Improving monitoring of EU rural spending

- > **Tagging of EU funds by sector and type of territory** to enhance transparency and accountability. Territorial tagging should consider the specificities of rural areas and help prevent disproportionately benefitting territories with higher capacity.
- > **SMART indicators** (Specific, Measurable, Achievable, Relevant, and Time-bound) to evaluate the impact of rural projects, short and long-term, balancing quantitative and qualitative aspects. **Technical support** to rural stakeholders to implement the indicators effectively.

RPCG Declaration: adopted on 12 December 2024 by consensus, it sets out a strategic proposal for the post-2027 EU funds and policies. It is a collective response to the questions set out in the European Commission's [report on the long-term vision for EU's rural areas](#) of March 2024.

Rural Pact Coordination Group (RPCG): informal group, representative of the Pact participants to further develop it and steer its process

Rural Pact: cooperation framework across governance levels and stakeholders to address rural challenges





Join the Rural Pact Community and online platform

https://ruralpact.rural-vision.europa.eu/become-member_en



 ruralpact.rural-vision.europa.eu/index_en

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The opinions expressed are those of the Rural Pact Coordination Group only and should not be considered as representative of the European Commission's official position.

Luxembourg: Publications Office of the European Union, 2025

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Cover photo: ©Flickr

The Rural Pact Support Office is a project implemented by



PRINT ISBN 978-92-68-25713-5 doi:10.2762/6166090 KF-01-25-008-EN-C

PDF ISBN 978-92-68-25712-8 doi:10.2762/3384779 KF-01-25-008-EN-N



Funded by
the European Union

Other ERDN related activities



EUROPEAN CARBON FARMING SUMMIT 2027

Kraków to host Europe's carbon farming community

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The fourth European Carbon Farming Summit will bring the debate on credible implementation to Poland and strengthen the participation of Central and Eastern Europe.

On 16-18 March 2027, Europe's carbon farming community will meet in Kraków, Poland. The Summit is organised by Climate KIC, EIT Food and the Project CREDIBLE consortium, and will be co-hosted locally by the Institute of Soil Science and Plant Cultivation – State Research Institute (IUNG-PIB), Green Alchemy and European Carbon Farmers. The National Bioeconomy Hub in Poland will support the event and take an active role in its delivery. Around the same table will be more than 500 farmers and land managers, researchers, policymakers, businesses, financial institutions, advisers and civil-society organisations – all concerned with turning carbon-farming concepts into credible land management practices.

From Valencia to Kraków

The series began in Valencia in 2024 as the flagship initiative of the Horizon Europe-funded CREDIBLE project. Dublin followed in 2025, then Padua in 2026. With each edition, the discussion broadened: scientific methods and certification remained important, but farmer participation, business models and day-to-day implementation moved closer to the centre. Project CREDIBLE reports that on-site attendance rose from fewer than 250 people in 2024 to more than 700 in 2026. Growth on that scale signals a change. Carbon farming is no longer treated only as a promising idea or a research concept; it now needs common quality criteria, workable monitoring, trusted claims and fair incentives for land managers.

Why the timing matters

Kraków comes at a decisive point in European policy. Regulation (EU) 2024/3012 created the first EU-wide voluntary certification framework for permanent carbon removals, carbon farming and carbon storage in products. In July 2026, the European Commission adopted certification methodologies for carbon-farming activities. The focus is now shifting from framework design to implementation: baselines, additionality, monitoring and reporting, long-term liability, transaction costs, data governance, and links with soil, water and biodiversity. Scientific rigour is indispensable to confirm ideas and provide credibility. So are solutions that farmers can understand, afford and use.

Why Poland is an important host

Hosting the Summit in Poland gives the European debate a stronger Central and Eastern European perspective. The country combines a large, varied agricultural sector with extensive research capacity in soil science, agronomy, remote sensing and farm management. Across its 14.6 million hectares of utilised agricultural area, production systems, farm sizes, soils and exposure to drought differ greatly. Poland is therefore a useful place to ask a practical question: how can carbon-farming approaches be adapted to regional conditions instead of being transferred as uniform models?

Kraków also creates a bridge to the BIOEAST community and to organisations that have been less visible in some Western European policy and market discussions. Polish farmers and researchers will gain direct access to European networks, emerging methods and potential project partners. International participants, in turn, can better understand agriculture in Poland and neighbouring countries – from the importance of soil organic matter and water retention to advisory support, investment capacity and reliable measurement at farm level.

More than a conference

The significance of ECFS27 will extend beyond the three days of discussions in Kraków. The Summit will strengthen cooperation, facilitate the exchange of evidence and support the development of new partnerships, pilot initiatives, and research and innovation projects. The National Bioeconomy Hub will contribute by connecting the event with Polish ministries, research institutions, farmer organisations, companies and civil-society organisations, while placing carbon farming within the broader context of the circular bioeconomy.

Healthy soils, efficient nutrient cycles, sustainable biomass production and climate action are closely connected elements of the same transition. Hosting the Summit in Poland will enable the country and the wider Central and Eastern European region to contribute actively to shaping its implementation across Europe.

We warmly invite the European carbon farming community to join us in Kraków – a city where a rich cultural heritage, a strong academic tradition and a distinctive atmosphere create an inspiring setting for dialogue, cooperation and new ideas.



CO-HOSTS

Bringing ECFS27 to Poland

ECFS27 is co-hosted by the Institute of Soil Science and Plant Cultivation – State Research Institute (IUNG-PIB), Green Alchemy and the European Carbon Farmers, with the support of the National Bioeconomy Hub in Poland.



**POLISH
BIOECONOMY
HUB**



CREDIBLE
EU Carbon Farming



**EUROPEAN
CARBON FARMING
SUMMIT**

Photo: Elżbieta Marchewka

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NATIONAL BIOECONOMY HUB IN POLAND

From stakeholder dialogue to a national roadmap for Poland's circular bioeconomy

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Created with main support from the Horizon Europe CEE2ACT project, the Hub has turned cross-sector cooperation into a practical proposal for the country's bioeconomy transition.

Biological resources constitute a strategic resource base for several sectors of the Polish economy, including agriculture, food processing, forestry, wood-based industries, biotechnology, waste management and renewable energy. Their long-term economic potential depends on both their sustainable availability and the efficiency with which they are managed. In a circular bioeconomy, biomass, by-products and nutrients are retained in productive use for as long as possible and directed towards applications offering the highest feasible added value. This approach can reduce dependence on fossil resources, but it must remain within environmental limits and safeguard the soils, forests and other ecosystems on which biomass production depends. Developing the circular bioeconomy is therefore both an opportunity for innovation and competitiveness and a complex policy and coordination challenge.

This challenge has moved higher on the European policy agenda. The Strategy for a Competitive and Sustainable EU Bioeconomy, published by the European Commission in November 2025, gives greater weight to industrial deployment, circular and resource-efficient biomass use, secure supply and better prospects for primary producers. For Poland, the message is clear: scattered sectoral policies and initiatives need a shared national direction. As a country with substantial and diverse biomass resources, Poland has significant potential to develop a competitive and sustainable bioeconomy. Realising this potential will, however, require the coordinated involvement of biomass producers, processors, policymakers, investors and research organisations.

A platform catalysed by CEE2ACT

The National Bioeconomy Hub in Poland (Krajowy Hub Biogospodarki) was strongly catalysed by CEE2ACT, a Horizon Europe project implemented in 2022–2026, which provided the initial framework, resources and momentum needed to bring a broad Polish bioeconomy community together. CEE2ACT was therefore an important starting point and one of the key enabling initiatives behind the Hub, rather than its sole institutional foundation. From the outset, the ambition was to create a platform capable of connecting and building on a wider range of European and national projects, networks and initiatives related to the circular bioeconomy.

CEE2ACT itself aimed to help Central and Eastern European countries build the capacity needed to develop local circular bioeconomy strategies and action plans, combining knowledge from countries with more mature policy frameworks with bottom-up work in ten participating countries.

Poland's Hub was launched in October 2023 at the Institute of Soil Science and Plant Cultivation – State Research Institute (IUNG-PIB) in Puławy. Nearly 60 people, representing 40 entities, joined the inaugural meeting. IUNG-PIB founded and coordinates the initiative together with the Foundation for Education and Social Dialogue PRO CIVIS and EPRD – Office for Economic Policy and Regional Development. Each co-founder brings something different to this unique community: scientific evidence, experience in civil-society dialogue, and policy and economic expertise. A Memorandum of Understanding subsequently formalised the cooperation and provided a basis for its long-term development.

Since its establishment, the Hub has increasingly served as a common platform through which the results, communities and activities of multiple projects and initiatives can reinforce one another, helping to ensure continuity beyond the lifetime of any single project.

A cross-sector membership

Since then, the Hub has become a network of more than 30 closely cooperating organisations. Businesses make up the largest group (30.6%) of the hub, followed by agricultural actors (24.5%), non-governmental organisations (18.4%), research organisations (16.3%) and public administration (10.2%). The network therefore brings together universities and research institutes, farmers, start-ups and established companies, industry associations, authorities, advisers, innovation-support bodies and civil-society organisations.

That mix is essentially important. Circular value chains rarely fit neatly within one ministry or industry, and a residue from one process becomes a useful feedstock for another only when technology, regulation, logistics, finance and social acceptance are considered together.

How the Hub works

The Hub works at two levels. Open conferences bring a broad community into the conversation, while smaller formats like expert panels, workshops, round tables, Delphi-type consultations and study visits allow participants to focus on a particular barrier or opportunity. Assumptions are tested against sectoral knowledge. Legal, economic and operational constraints can then be identified early, while there is still room to adjust a proposal. The point is not to erase differences of interest, but to turn them into workable compromises and joint initiatives.

From 2023 to 2025, this process included three national conferences and numerous working meetings. Two milestones were the events held in March 2025 and 2026 together with the National Centre for Research and Development. It connected Polish stakeholders with representatives of the European Commission, the Circular Bio-based Europe Joint Undertaking and the Bio-based Industries Consortium, combining policy and funding discussions with a study visit to solutions developed by companies and start-ups. More than 150 people from ministries, universities, research institutes, enterprises and advisory organisations took part in the Hub's larger events. Their feedback suggests that the exchange was useful: 85% rated the workshops as highly valuable, and almost half reported a substantial increase in their bioeconomy knowledge and competences. Importantly in the context of this event, the Hub's members include both the European Rural Development Network (ERDN) and the Institute of Rural and Agricultural Development of the Polish Academy

of Sciences (IRWiR PAN), reflecting the strong links between Poland's emerging bioeconomy community and the wider rural development research and policy network.

Work does not stop at the boundary of a single project. Lessons from CEE2ACT are being connected with initiatives such as BIOEASTsUP, Boost4BIOEAST and BIOECO-UP, as well as with national and regional activities. European project results can therefore inform debate in Poland, while Polish needs and implementation barriers feed back into European research and policy discussions. In practice, the Hub is a knowledge broker, a partnership builder and a place where project ideas can mature, not merely another communication channel.

Poland's resource base: potential with clear limits

The scale of Poland's biological resource base helps explain the need for coordination. Eurostat reports that Polish farms managed 14.6 million hectares of utilised agricultural area in 2023, the fourth-largest national area in the European Union. Statistics in Poland recorded 31% of the country's area is covered with forests. Alongside this land base are crop residues, manure, forestry and wood-processing by-products, agri-food side streams, food waste and municipal biowaste. Strong food-processing, biotechnology, pharmaceutical and wood-based industries can both generate and use these feedstocks.

These figures do not describe a freely available surplus. Crop residues support soil organic matter and erosion control; forests provide biodiversity, water regulation and carbon storage; many side streams already have established uses. The useful question is therefore not how much biomass could be removed in theory. It is how much can be mobilised responsibly once environmental limits, competing uses, logistics and regional conditions are taken into account. This is why the Hub places cascading use, circular nutrient flows and the restoration of soil and ecosystem functions alongside industrial innovation.

From participation to a shared policy proposal

The clearest result of this work is the draft Roadmap for the Development of the Circular Bioeconomy in Poland, prepared through an iterative process led by IUNG-PIB. Stakeholder mapping began before the Hub was launched. Workshops and conferences generated evidence, priorities and proposals, while successive drafts were challenged through written comments and dedicated discussions with around 30 experts from participating organisations. The result is not the position of one institution. It is a bottom-up constructed, shared policy proposal, designed to support dialogue with public authorities and inform a future national framework.

What the roadmap proposes

At the centre of the roadmap is a long-term vision: the bioeconomy should become a pillar of Poland's sustainable development, bringing technological innovation together with efficient resource use and ecosystem protection.

Four strategic directions give that vision structure. They are sustainable and non-exploitative biomass use, circular economy models, industrial deployment of biotechnology and biorefineries, and the skills and human capital needed to make the transition possible.

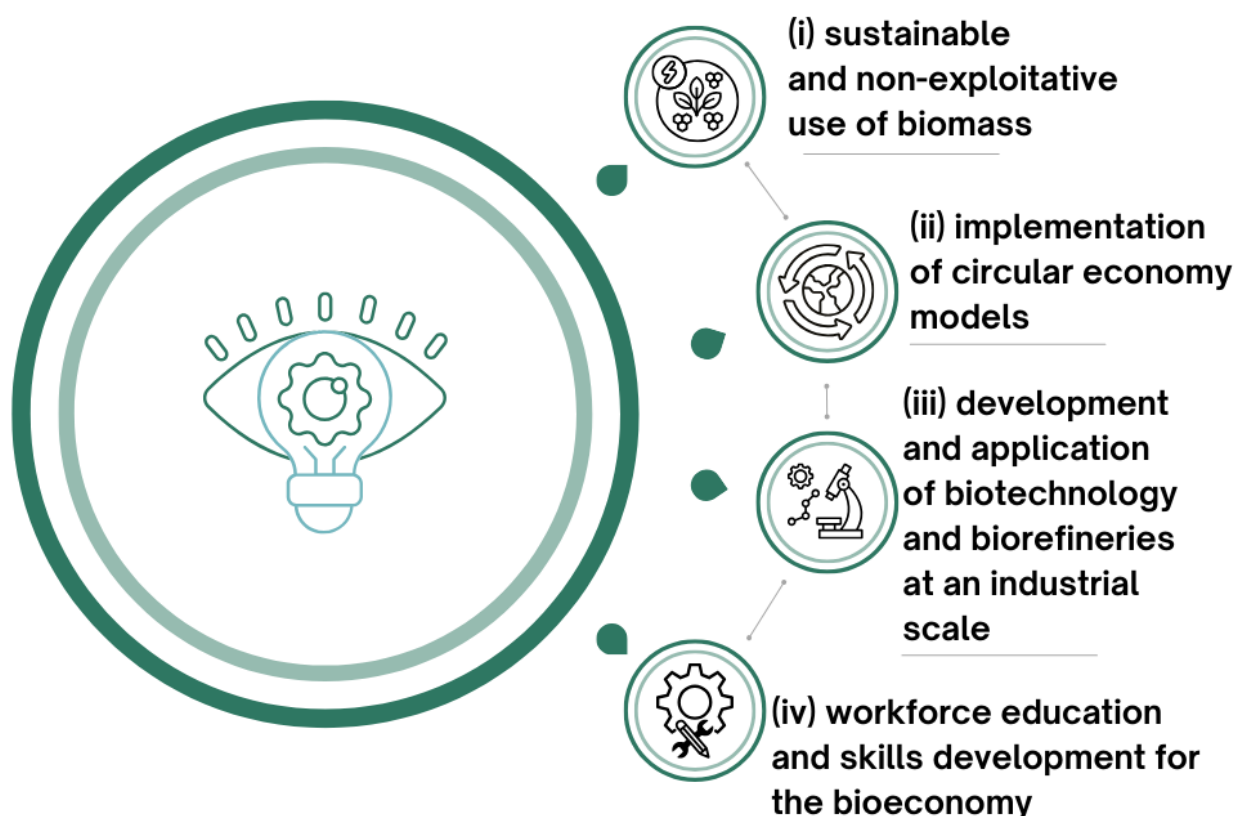


Figure 1. Four strategic directions of the roadmap for Polish bioeconomy

Twelve priority areas translate those directions into a working agenda. They range from regenerative biomass production and carbon farming to advanced biotechnology, biorefineries and circular food systems. The list also covers bioenergy, ecosystem services, high-potential niches, digitalisation, cascading use of wood and lignocellulosic biomass, education, upcycling and bio-based construction. Its breadth is deliberate. The bioeconomy is not a single sector; it is a web of interdependent production systems and value chains.

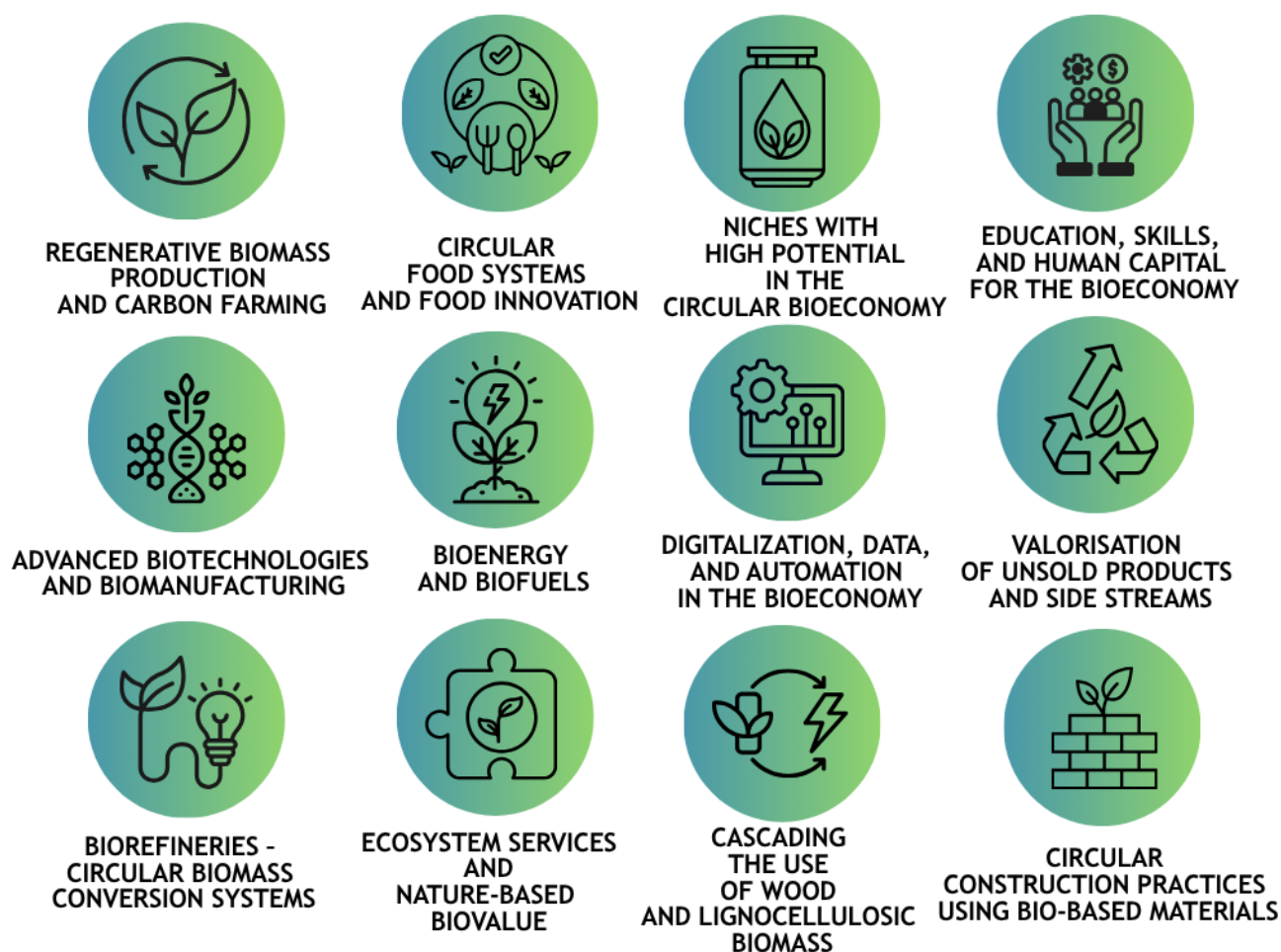


Figure 2. Twelve priority areas for Polish bioeconomy

Timing is equally important in the roadmap for Polish bioeconomy. During the first two years, the emphasis falls on mobilising stakeholders, aligning regulation, launching pilots and building capacity. Within five years, technologies and value chains should begin to scale, with circular practices reaching a wider group of users. The longer horizon looks towards fuller integration of the bioeconomy into national and sectoral policies, supported by durable arrangements for finance, data, monitoring and evaluation. Policy and investment clinics, mutual-learning laboratories, partnership brokerage, micro-credentials, study visits and living-lab demonstrations are among the formats proposed to move from plans to practice.

The next phase: building ownership and demonstrating benefits

A roadmap alone will not change policy or investment. The next step is structured consultation with the ministries responsible for agriculture, climate and environment, development and technology, and science and education. These discussions need to test whether the proposed measures are feasible, clarify regulatory and financing responsibilities, and demonstrate how a coherent framework could support food and energy security, rural development, industrial competitiveness, soil health and climate resilience. Regional authorities must be part of that conversation too, because biomass resources, industrial capabilities and research infrastructure vary markedly across Poland.

Consultation must be accompanied by explanation. Beyond specialist circles, the bioeconomy can still sound abstract, so an information and awareness campaign should begin with examples people can see: nutrients recovered from side streams, new bio-based materials, local biorefineries, regenerative farming systems or food-processing residues put to better use. Demonstration farms, pilot installations, accessible regional reports and targeted training can show where the economic and environmental benefits lie.

The experience so far offers a simple lesson. Cross-sector commitment produces results when participation is tied to a clear task, evidence remains open to challenge and responsibility does not end when a conference closes. The roadmap now gives Poland a common reference point. The Hub's continuing role is to keep the dialogue alive, connect partners with funding, support pilots and ask whether agreed priorities are leading to measurable change. CEE2ACT's most durable Polish result may therefore be more than a document: it is the capacity to work together that has formed around it.

Literature

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Eurostat (2026). *Farms and farmland in the European Union - statistics (2023 data)*. [Link](#)

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Science for sustainable and resilient agriculture

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Rooted in more than 160 years of agricultural research in Puławy, IUNG-PIB combines scientific expertise, long-term field studies and cooperation with agricultural practice.

The Institute of Soil Science and Plant Cultivation – State Research Institute (IUNG-PIB) is one of Poland's leading public research organisations in agriculture and environmental sciences. Established in 1950, it continues the traditions of the Puławy agricultural research centre, which dates back to 1862. The Institute is supervised by the Polish Ministry of Agriculture and Rural Development, and its headquarters are located in the historic Czartoryski Palace in Puławy.



Figure 1. The historic Czartoryski Palace in Puławy – seat of the Institute. Photo by IUNG-PIB

This scientific heritage is matched by a contemporary mission. As a recognised partner in the Polish and European research community, IUNG-PIB develops knowledge and practical solutions in response to some of the most important challenges facing agriculture today. These include climate change, pressure on soil and water resources, sustainable resource management, technological and biological innovation, and the need to strengthen the competitiveness and resilience of agricultural production.

Research from laboratory to field

The Institute's multidisciplinary research spans soil quality and sustainable soil management, crop production and farming systems, fertilisation and nutrient management, agricultural microbiology, biotechnology and plant breeding. It also covers agroecology, agricultural economics, agrometeorology, climate adaptation, weed science, crop quality, geomatics, digital agriculture and the bioeconomy.

Research is supported by specialised laboratories, phytotrons, greenhouses, a vegetation hall, experimental plots and advanced systems for monitoring field experiments. The Innovation and Scientific Centre for Agricultural Research (INCBR) provides modern analytical and research facilities for analyses under laboratory and controlled conditions.

A network of 11 Agricultural Experimental Stations extends this capacity into different soil and climatic regions of Poland. The stations support long-term field research, implementation studies and the testing of new agricultural technologies. Through cooperation with farmers, advisory services, industry organisations and local authorities, they also act as regional centres for knowledge and innovation sharing and exchange.

From scientific evidence to agricultural practice

Ensuring that research responds to practical needs is central to the Institute's mission. IUNG-PIB works with farmers, agricultural advisers, businesses, public authorities, industry organisations, universities and other research institutions. Results are translated into scientific publications, practical recommendations, policy analyses, training, workshops, conferences, expert consultations and digital resources.

The Institute also provides laboratory analyses, vegetation and field trials, testing of products intended for agricultural use, expert assessments and support for transferring research results into practice. These activities help agricultural stakeholders and public authorities base their decisions on reliable evidence.



Figure 2. The Institute's expert in laboratory analysis. Photo by IUNG-PIB

Cooperation, education and innovation

IUNG-PIB participates in national and international research and innovation projects and contributes to expert groups and networks linked to organisations including the European Commission, OECD, ISO and Eurostat. This cooperation connects Polish agricultural research with European policy, international standards and emerging fields of innovation.

At present, the Institute is involved in around 30 EU-funded projects implemented by international consortia, alongside several dozen national research and implementation projects. Together, these initiatives address soil health and remediation, biological solutions, digital agriculture, climate adaptation, sustainable food systems, circular nutrient management, renewable energy and the bioeconomy.

IUNG-PIB also coordinates the National Bioeconomy Hub in Poland. Together with the Ministry of Agriculture and Rural Development, it helped establish the National Soil Hub, which supports knowledge exchange and stakeholder dialogue related to the implementation of the EU Mission “A Soil Deal for Europe” in Poland.

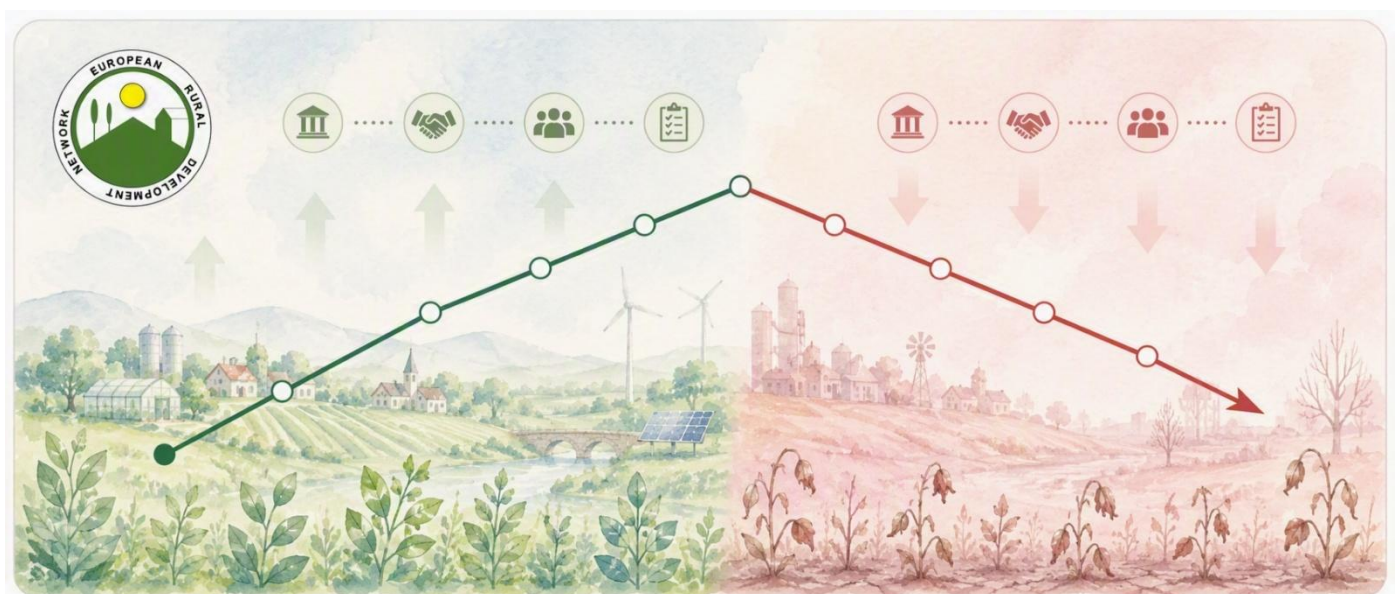
Education and knowledge sharing form another important part of the Institute’s work. IUNG-PIB contributes to doctoral and postgraduate education and organises professional training for researchers, students, agricultural advisers, farmers and pupils of agricultural schools. Publications, multimedia materials, educational events, the Institute’s website and social media make research findings accessible to a wider audience.

Across these activities, IUNG-PIB seeks to bring science closer to the people who shape agriculture every day – from farmers and advisers to businesses, policymakers and rural communities.

More information

Institute’s website: en.iung.pl

Book summaries



Innovation and the Future of Rural Development in Europe. Understanding the Science-Society-Policy Interface from a Local and Regional Perspective



About the book

This book is of special importance to the ERDN as it includes three chapters written by three ERDN Teams involved in SHERPA project – Lithuanian, Romanian and Polish Teams. The other reason for the importance of this book to ERDN is that it presents the issues close at heart to the ERDN community – future development of rural areas and the role of multi-actor cooperation in the process of designing and implementing rural policies at different administrative levels.

The book presents 12 studies conducted in different countries. All these studies show the challenges related to shaping public policy. The book acknowledges the relevance of the EU vision for future rural development, digitalisation, sustainability, innovation and attractiveness. It shows both the challenges and good practices shaped not only by EU policies but also national, regional and local context and institutional capacities.

Book chapters:

1. Introduction

Paweł Chmieleński, Dominique Barjolle & David Miller

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2. Beyond the Long-Term Vision for Rural Areas: Policy Anchoring, Strategic Alignment With the CAP Strategic Plans and Funding Mechanisms Towards a Modern Rural Policy in The EU

Tristan Berchoux, Aurélie Kirsch & Samuel Féret

3. Potemkin's Villages: The (Weak) Institutional Framework for Rurality and Rural Policy in Slovenia?

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Editors: Dominique Barjolle, **Paweł Chmieliński**, David Miller

Publisher: Palgrave Macmillan Cham

DOI: <https://doi.org/10.1007/978-3-032-22570-2>



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