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Exploring Regional Disparities and Stakeholder Engagement in Slovenian EIP-AGRI Projects

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Abstract
The European Innovation Partnership for Agricultural Productivity and Sustainability (EIP-AGRI) was introduced to enhance EU's capacity for agricultural innovation by bridging the gap between research and practise. This paper explores the implementation of EIP-AGRI Operational Groups in Slovenia, focusing on spatial distribution, stakeholder networks, and thematic priorities. Findings indicate that farmers often take a passive role in innovation processes. Strengthening their role as co-creators could improve applicability impact. Environmental sustainability and climate adaptation are key thematic priorities, but project selection remains administratively driven rather than reflecting stakeholder needs. A higher concentration is found in the Eastern and Central Slovenia, likely due to agriculture's role, farm density, as well as support networks, including educational, research institutions and advisory services.

Keywords
EIP-AGRI Operational Groups, agricultural innovation, multi-actor networks, innovation & agricultural policies

Izvleček
Analiza regionalnih razlik in vključenosti različnih deležnikov v EIP-AGRI projektih v Sloveniji
Evropsko partnerstvo za inovacije na področju kmetijske produktivnosti in trajnosti (EIP-AGRI) je bilo uvedeno z namenom krepitve inovacijske zmogljivosti in premostitve vrzeli med raziskavami in prakso. V prispevku preučujemo prostorsko razporeditev, mreže akterjev in deležnikov ter tematska področja EIP-AGRI operativnih skupin v Sloveniji. Ugotovitve kažejo, da imajo kmetje pogosto pasivno vlogo. Krepitev njihove vloge kot so-ustvarjalcev inovacij bi lahko izboljšala praktično uporabo in zagotovila dolgoročni učinek. Ključni tematski področji sta okoljska trajnost in prilagajanje podnebnim spremembam, vendar njun izbor predvsem določajo administrativna merila. Večja zgostitev EIP-AGRI projektov je v vzhodni in osrednji Sloveniji, kar je povezano z vlogo kmetijstva, številom kmetij, pa tudi z mrežnim delovanjem podpornega okolja (izobraževalno-raziskovalne ustanove, kmetijska svetovalna služba).

Ključne besede
EIP-AGRI operativne skupine, kmetijske inovacije, večdeležniški projekti, inovacijske in kmetijske politike

Univerzitetna založba Univerze v Mariboru

1 Introduction

In year 2012 an initiative European innovation partnership for agricultural productivity and sustainability (EIP-AGRI) was launched as part of the Rural Development Programme in several member states. The core idea was to catalyse innovations that "achieve more and better with less" (Eckerberg et al., 2023) to make European agriculture and forestry more resilient, sustainable and competitive and to upgrade the previously identified modest innovation and knowledge exchange in agricultural sector. The EIP-AGRI is one of five European Innovative Partnerships that was introduced to boost EU´s capacity to innovate. It aims at improved coordination of public innovation measures and mechanisms, strengthening the bridges between research and practical farming, and encouraging the exchange of practices at EU level. For the programming period 2023–2027 the Common Agricultural Policy (CAP) confirmed this intervention as the preferred strategic initiative for accelerating innovation and knowledge sharing. For the implementation of EIP-AGRI the key interface is operational group (OG) (Cristiano & Proietti, 2018) which can be defined as complex partnership being set-up and involved in projects designed to respond to famers´ problems or generate opportunities in the sector through innovation. More than 3,800 OGs have completed their activities, funded by 98 rural development programmes across 26 European Union member states (European CAP Network, 2024).

In the context of European agricultural policies, EIP-AGRI and its OGs are considered as part of the agricultural knowledge and innovation system (AKIS), which is described as »a system of innovation, with emphasis on the organizations involved, the links and interactions between them, the institutional infrastructure with its incentives and budget mechanisms« (SKP Slovenije. AKIS, 2024). The implementation of EIP-AGRI with its OGs is grounded on »interactive approach« which is evaluated to be most effective way of generating and disseminating innovative solutions to farms and rural territories. Within this approach, the interventions are carried out by a diverse group of actors, including farmers, advisors, researchers, processing industries, and others (e.g. educational institutions, producers' groups, etc.) directly involved in identifying, developing and adopting specific innovative solutions. Support is therefore given to OGs to promote co-creation and bottom-up approaches to innovative solutions while fitting the needs of farmers and rural entrepreneurs (Eckerberg et al., 2023).

In Slovenia, national public institutions allocated more than 18,2 million euros to the implementation of 67 Operational group projects (SKP Slovenije, EIP seznam projektov, 2024). Broader analysis of the EIP delivery in Slovenia has not been performed yet. In general, the literature on the interactive approach in the context of EIP-AGRI is still limited, both on national and international level due to the fact that the intervention has only been recently implemented and consequently the modest data available (Arzeni et al., 2023; Fieldsend et al., 2021). It is evident that broader data on the implementation of OGs, multi-actor-related experiences and, more importantly, the assessment of OGs that have conducted the projects, possible hierarchies in these partnerships, etc. is still lacking. On the other hand, more analyses on similar interactive approach being implemented in the delivery of LEADER/CLLD (community-led local development) was conducted: the later was introduced as pilot incentive in 1991, and became a mainstream intervention within the CAP in 2007–2013 programming period since more data is available and a longer period could be monitored and evaluated (Potočnik Slavič et al., 2022).

This article presents the initial study on Slovenian OGs, focusing primarily on the networks, financial aspects and thematic priorities. We proceed by introducing our analytical framework, followed by a description of the data and methods applied. We worked on two research questions.

- The first question examines which actors and stakeholders were involved in OGs implementation and in which rural territories they were active. We expected to identify certain regional rural clusters with bigger concentration of interactive partnerships and networks.
- The second question indicates and elaborates the thematic areas in which innovation and knowledge exchange occurred within the OGs. We anticipated that more innovation (in technical and in social sense) and environmental and climate-related goals are given high priority with the OGs in the EIP- AGRI delivery in Slovenia.

2 Methodology

The data used to answer our research questions were obtained from the EIP-AGRI database at the Slovenian Agency for Agricultural Markets and Rural Development. This database contains information on all funded Operational Groups (OGs) in Slovenia during the period 2018–2024, specifically under Measure M16 – Cooperation. The data were received in October 2024. The dataset includes the project title, name of the lead partner and project partners, project status (completed or ongoing), percentage of co-financing and own contribution, total approved project value and funding distribution among partners, officially reported thematic areas (if available), project objectives and aim, and additional links to results and publicly available project materials.

Two methodological approaches were applied: stakeholder analysis and content analysis. First, a content analysis was conducted to systematically group the 20 official thematic areas into 12 broader categories. Since the official classification proved insufficient - either because beneficiaries did not report it or because projects applied multiple thematic areas, each project was categorized into up to three thematic areas based on its stated aims and objectives. A sunburst chart was created to visually represent these thematic areas and their relationships.

Second, the structure of OGs and partnerships within EIP-AGRI projects was analyzed to identify patterns of stakeholder networks. The location of each actor was determined through extensive searches of publicly available data on postal addresses found online. These addresses were georeferenced, and GIS was used to map the geographic distribution of actors across Slovenia. The locations were mapped with postal-address level accuracy. To visualize spatial patterns and stakeholder distribution, ArcGIS Pro was used for the final mapping and layout. In cases where symbols overlap occurred – particularly in the areas with a high concentration of actors – the "Disperse Markers" tool in ArcGIS Pro was applied, setting a minimum distance between symbols, in order to enhance readability and avoid excessive overlap. Differentiation was made based on the number of projects (OGs) each entity participated in, their role in the project (lead partner vs. project partner), organizational-legal type, and the amount of funding received. Findings emerged from the analysis of maps and visualised data in graphs.

3 Results

EIP-AGRI projects in Slovenia as a part of European approach to promoting innovation and collaboration in agriculture and the sustainable development of rural areas, have been implemented since 2018. The aim of these projects is to establish connections among various stakeholders – from farmers, advisory services, researchers, universities, businesses, to non-governmental organizations – to find efficient and effective solutions to challenges in agriculture and the environment.

3.1 Spatial distribution of financed EIP projects reflects regional disparities

In the period 2018–2024, a total of 67 EIP-AGRI projects of operational groups were implemented (finished or on-going), involving 770 project partners. Among them, 445 different actors and stakeholders' entities from Slovenia participated, with 101 of them being involved in at least two projects. The spatial distribution of project partners and leaders of EIP projects in Slovenia is shown on the map below (figure 1), where the legend also indicates the number of projects they have participated in so far.

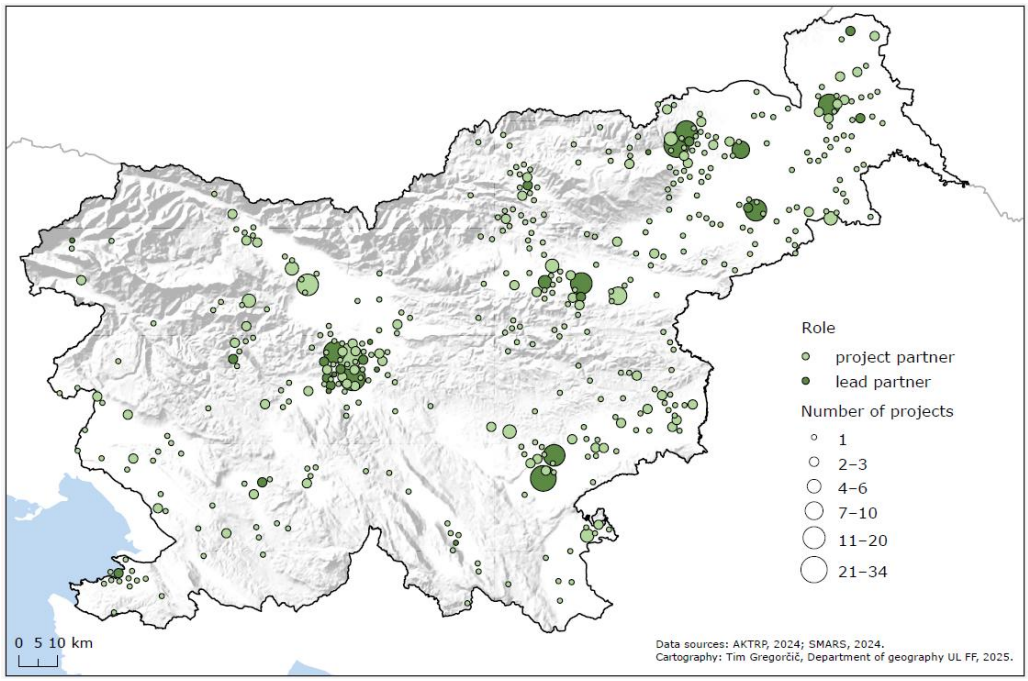

Figure 1: Spatial distribution of lead and project partners participating in EIP-AGRI projects in Slovenia, categorized by the number of projects they have been involved in.
Source: Authors, 2025.

This spatial distribution underscores regional disparities in participation, with central and eastern regions playing a dominant role. Regions with intensive agricultural activities, such as northeastern Slovenia (Pomurje and Podravje), tend to have a higher concentration of EIP-AGRI projects. A significant number of EIP-AGRI projects are also located in the Dolenjska, Posavje, and Savinja regions. These regions also

have strong ties to regional public advisory services branches, organised within the Chamber of Agriculture and Forestry of Slovenia, and regional educational institutions, which likely facilitate their participation in EIP projects and taking the lead role. These regions often serve as testing grounds for innovative approaches in smaller-scale or family farming systems, which are prevalent in Slovenia. Their involvement demonstrates that EIP-AGRI projects are not only concentrated in the largest agricultural hubs (Pomurje and Podravje) but are also addressing the needs of diverse farming systems across the country. Certain regions, particularly in western parts of Slovenia, demonstrate fewer projects and stakeholder participation, suggesting regional disparities in farming landscape, access to funding, advisory services, or networks for engaging in EIP-AGRI projects.

A notable clustering of project partners from Ljubljana reflects the capital's role as a key administrative, research, and innovation center, also in agriculture. The presence of national funding bodies, research institutions, and universities in Ljubljana provides an institutional backbone for EIP-AGRI projects. The city also serves as a networking hub, where diverse stakeholders from academia, industry, and policymaking converge, fostering cross-sectoral collaboration in EIP-AGRI initiatives. This centralization also suggests that access to funding, knowledge, and research infrastructure plays a crucial role in shaping the spatial distribution of EIP-AGRI projects.

3.2 EIP projects reflect multi-actor participation

3.2.1 Numerous actors with limited influence

Farms are the most frequently involved stakeholders in EIP-AGRI projects, representing 42% (figure 2) of all partners, which highlights their significant presence in these collaborative initiatives. Rather than leading innovation processes, farms typically adopt, implement, and validate innovations developed by other stakeholders, such as public research and educational agricultural institutions, public agricultural advisors organised within Chamber of Agriculture and Forestry of Slovenia (CAFS), and private companies. In EIP-AGRI projects in Slovenia, farms often participate through minor activities, focusing on demonstration roles where they test and showcase new practices or technologies on their premises. Their involvement ensures that project results are rooted in practical agricultural contexts, making innovations more likely to be accepted and integrated into everyday farming practices. However, this follower role can also limit the potential for farms to shape the direction of projects actively. Their participation often depends on external guidance from more prominent stakeholders, such as research institutions or advisors, which may reduce their influence on setting priorities or co-designing solutions that directly address their unique challenges. The advantage, however, is that participation in OG projects increases their visibility and networking opportunities, fostering collaboration with researchers, advisors, and other farmers. This exposure can, in turn, stimulate investment and innovation cycles on farms, encouraging farmers to experiment with new approaches and integrate modern solutions into their production processes. By gaining early access to innovations and being part of knowledge-sharing networks, farms may improve their decision-making capacity, enhance their competitiveness and resilience in a rapidly evolving agricultural sector.

Limited liability companies (LLCs), with a 13% share of participation in EIP-AGRI projects, emerge as another key partners in these initiatives, reflecting their critical

role in bridging innovation with practical application. Their importance lies in their ability to act as intermediaries between research outputs and market-ready solutions, contributing expertise, technology, and business acumen that are essential for the successful implementation of project objectives. One of the primary strengths of LLCs in EIP projects is their capacity for commercializing innovations. These companies often bring advanced technological solutions, such as precision farming tools, digital platforms, or sustainable production techniques, and have the means to scale these innovations beyond pilot projects into broader market adoption. Their participation often complements the technical expertise of research institutions and the practical knowledge of farmers, creating a dynamic collaboration that accelerates the pace of innovation. LLCs also play a pivotal role in fostering public-private partnerships, aligning business interests with publicly resound goals such as sustainability, climate resilience, and biodiversity preservation.

However, the significant presence of LLCs in EIP projects also highlights the need for careful consideration of power dynamics. As private entities, their priorities may sometimes lean towards individual profit-driven goals, which could overshadow broader environmental or social objectives. Given that EIP projects are largely financed through public funds, it is crucial to ensure that these resources serve collective interests rather than being disproportionately leveraged for private gain. These should be understood as a principled warning about a potential risk.

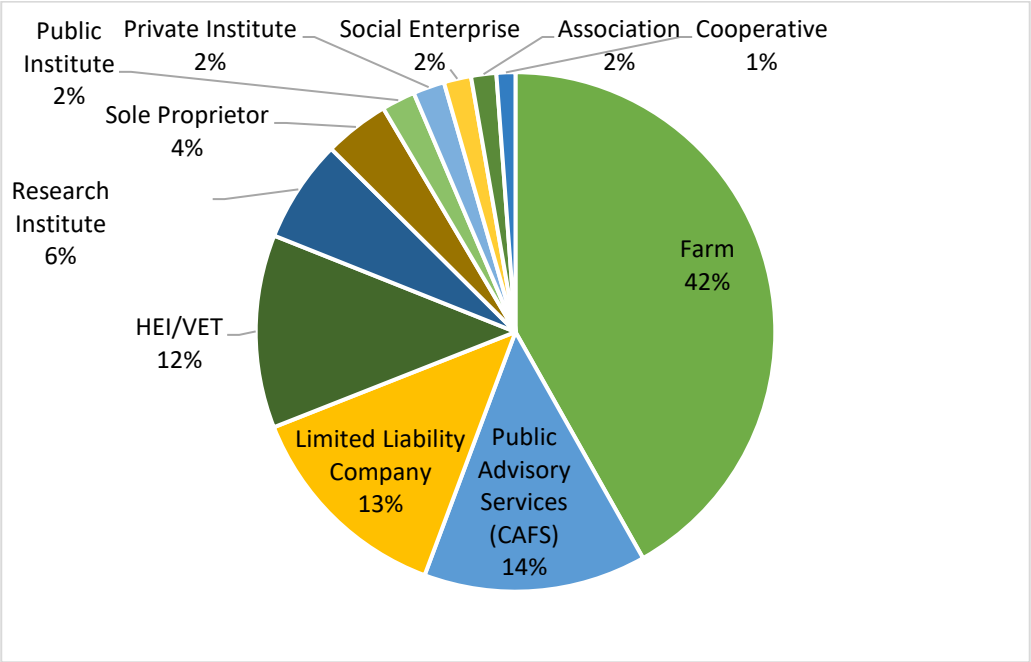

Figure 2: Share of different stakeholders participating in EIP-AGRI projects in Slovenia.
Source: Authors' calculations based on EIP-AGRI beneficiaries' data provided by AKTRP RS, 2024.

3.2.2 Significant role of public institutions: sector-representative, research and education

Educational and research stakeholders play a pivotal role in EIP-AGRI projects in Slovenia, with HEI/VET institutions (12%), public research institutions (6%) and the Chamber of Agriculture and Forestry of Slovenia with its advisory services (14%) collectively representing a significant portion of partnerships and funds (figure 2). These stakeholders are essential for driving innovation, providing expertise, and ensuring the alignment of projects with broader scientific, educational, agricultural and rural development goals. The University of Ljubljana and the University of Maribor play prominent roles, and the Agricultural Institute of Slovenia is a key partner in numerous projects. Several secondary and higher education and VET biotechnical centers have also been recognized as important regional project leaders. Research institutes contribute to EIP-AGRI projects through their scientific expertise and cutting-edge research. They are often the primary developers of innovative technologies, practices, and methodologies that address complex agricultural and environmental challenges. By conducting rigorous research and offering evidence-based solutions, these institutes lay the groundwork for project outcomes that are both innovative and scientifically validated. The Chamber of Agriculture and Forestry of Slovenia serves as a key intermediary between the research community and practitioners, particularly farmers and agricultural enterprises. Its role includes disseminating knowledge, providing advisory services, and ensuring that project outcomes are practical and applicable in real-world agricultural settings. The Chamber's involvement also facilitates stakeholder engagement and ensures that projects are responsive to the needs of the farming community, making it a vital player in bridging the gap between innovation and implementation. Higher Education Institutions (HEIs) and Vocational Education and Training (VET) institutions play a dual role in research and knowledge transfer. HEIs contribute through academic expertise, training future professionals, and conducting applied research. Meanwhile, VET institutions focus on skill development and equipping practitioners with practical knowledge to adopt and implement innovative practices. Together, these institutions ensure that the agricultural sector is not only equipped with the latest innovations but also has the capacity to use them effectively. These stakeholders' centrality to EIP-AGRI projects underscores their importance as knowledge generators and disseminators, ensuring that project outcomes are both innovative and applicable. Their presence also ensures that the projects align with long-term sustainability goals, as they contribute to capacity building and the education of a skilled workforce.

3.2.3 Visible role of other relevant actors

In addition to farms, educational and research institutions, and companies, EIP-AGRI projects in Slovenia also involve a range of smaller (less than 5%), but significant partners who contribute to the multi-actor landscape of the EIP-AGRI initiatives: social enterprises, private and public institutes, sole entrepreneurs, different associations and cooperatives.

The central region, which includes Ljubljana (figure 3), stands out for hosting several key stakeholders such as HEI/VET institutions and research centres with key actors University of Ljubljana and Agricultural Research Institute, public advisory services (CAFS – Ljubljana) and private companies, reflecting the administrative and organizational importance of the capital region. Maribor as a regional centre, with its university and other institutions, serves as another significant research hub and a key

contributor to EIP-AGRI projects in Slovenia. However, the role of secondary agricultural schools and vocational education and training (VET) institutions located in more rural areas, such as Novo mesto, Naklo, Šentjur, and Žalec, is also significant. The regional branches of the Chamber of Agriculture and Forestry of Slovenia play a crucial role as key partners and sometimes leaders in EIP-AGRI projects. These branches serve as vital intermediaries between research institutions, policymakers, and farmers, ensuring that innovative solutions developed within projects are effectively communicated and implemented at the local level. Their strong regional presence allows them to address the specific needs and challenges of diverse agricultural areas across Slovenia, making them indispensable for the success of these projects.

Collaboration between educational centres and regional agricultural advisory services has proven to be particularly effective. When VET institutions or secondary schools are closely connected with regional advisory services, the synergy enhances the frequency, quality and impact of EIP-AGRI projects. Advisory services provide practical knowledge and direct links to farmers, while educational institutions contribute training, innovation infrastructure, and a younger generation of skilled agricultural professionals.

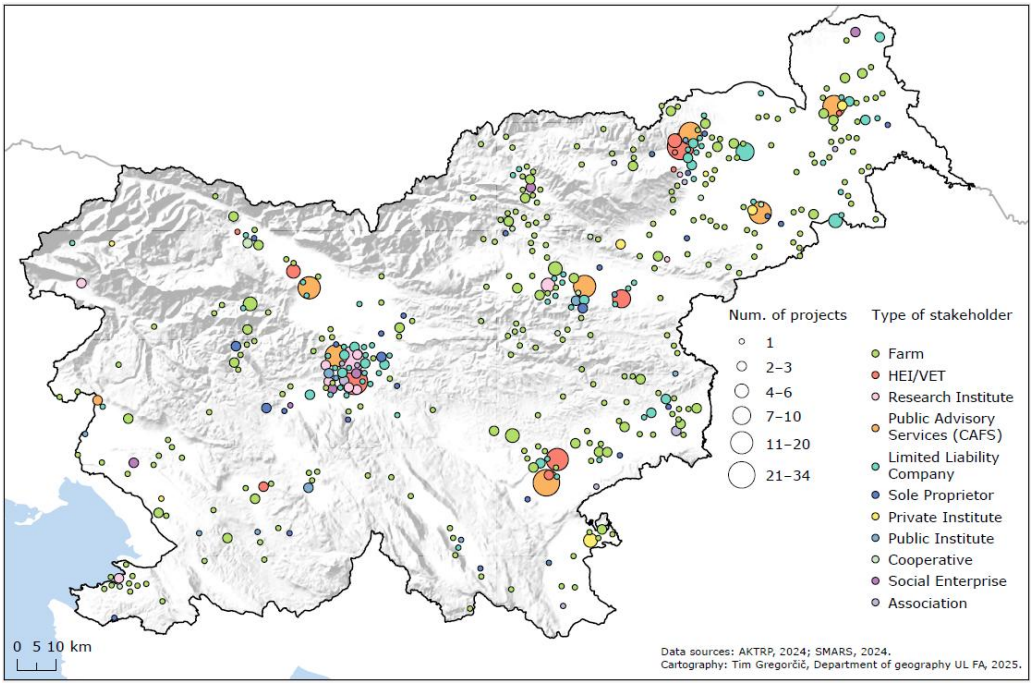

Figure 3: Spatial distribution of stakeholders, categorized by the number of projects they have been involved in and by their type (legal-organizational form).
Source: Authors, 2025.

3.3 Prevailing thematic areas of EIP projects

3.3.1 Official categorization of thematic areas: following contemporary administrative priorities

Official data on EIP-AGRI OG projects in Slovenia indicate that 67 projects cover 20 thematic areas, reflecting the diverse challenges and opportunities within the agricultural sector. These areas address topics ranging from environmental conservation and climate resilience to technological advancements and sustainable resource management, showcasing the comprehensive approach of EIP-AGRI initiatives in fostering innovation and collaboration.

To streamline the analysis, certain thematic areas were logically grouped into 12 categories, as shown in the figure 4. The largest share of EIP-AGRI projects in Slovenia focuses on agriculture as a support for nature conservation and biodiversity preservation, with 8 projects conducted in this area (e.g. pollinator-friendly farming, traditional meadow orchards, management of conservation-important grasslands). The second largest category, with 6 projects, involves mitigating and adapting to climate change on agricultural holdings (e.g. climate-resilient crop production with new crops such as industrial hemp and forage crop, climate-smart farming, ecosystem services).

In the area of sustainable water use, aiming to reduce surface and underground water pollution and adapt to water protection zones, 5 projects have been implemented (e.g. sustainable agriculture in river riparian zones, sustainable irrigation water use). Four projects address sustainable soil use, focusing on soil fertility preservation, erosion prevention, and soil degradation mitigation, as well as sustainable crop protection. Another 4 projects are dedicated to the rearing of high-quality small ruminants and cattle, including the introduction of genomic selection. Other significant areas include high-performance sustainable production of apples, grapes, and vegetables (4 projects), local food supply systems (3 projects), digitization of agricultural holdings (3 projects), and protein crop production technologies (2 projects). In the field of efficient energy use and renewable energy sources in agriculture, one project has been implemented. Furthermore, more than one-third of the projects either addressed multiple thematic areas (13 projects) or lacked a clearly defined thematic focus (14 projects), making their classification challenging.

In the application process for Slovenian EIP-AGRI, applicants are required to specify the OG thematic areas. Similar to the Swedish EIP-AGRI delivery (Eckerberg et al., 2023) we found that thematic prioritization is determined at the administrative level through the application and selection process.

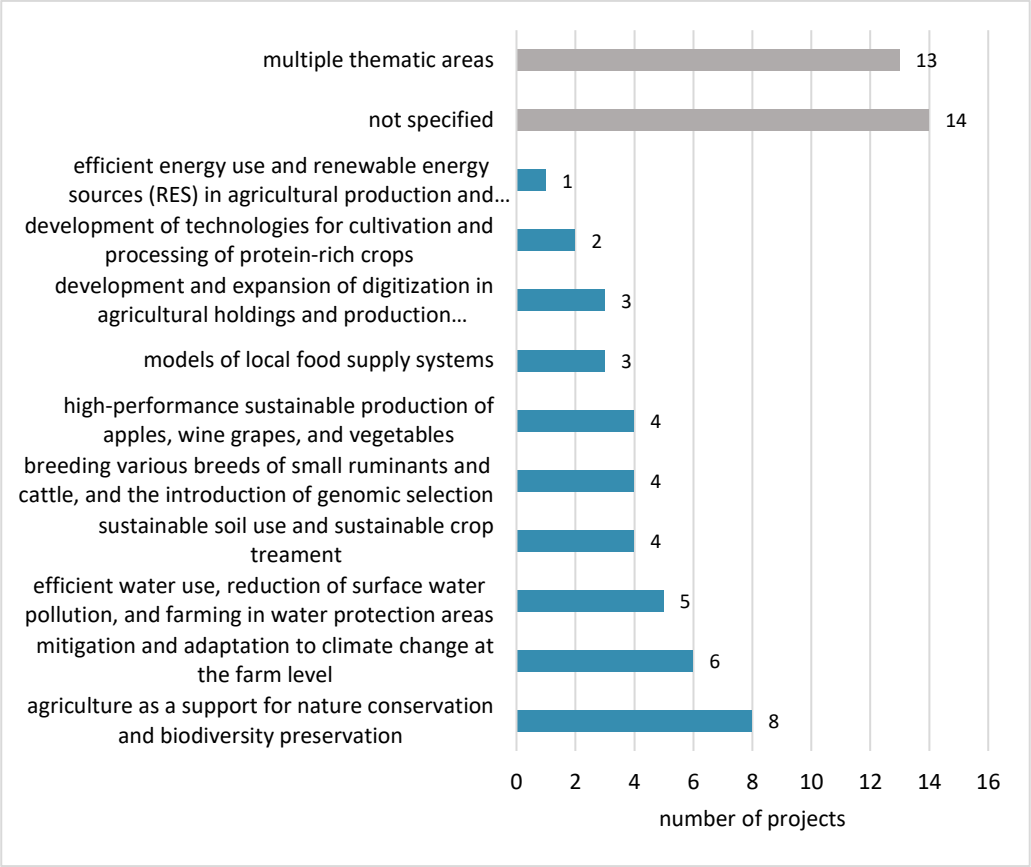

Figure 4: Distribution of EIP-AGRI projects in Slovenia by official thematic areas.
Source: Authors' calculations based on EIP-AGRI beneficiaries' data provided by AKTRP RS, 2024.

3.3.2 Bridging horizontal and sector-specific thematic areas

Since the official classification of thematic areas for EIP-AGRI projects in Slovenia proved to be insufficient and since projects are often addressing multiple thematic areas, we categorized each EIP-AGRI project into up to three thematic areas. We found that 28 projects (26%) partially or fully address the development of new technologies for production (table 1), processing, and breeding, while approximately one-quarter of the projects focus on agriculture as a support for nature conservation and biodiversity preservation. A total of 18 projects partially or fully address climate change mitigation and adaptation. Additionally, 16 projects (15% of all projects) target sustainable management of water and soil. Other areas include: 12 projects (11%) focusing on precision farming and digitalization, 7 projects are addressing local food supply models, and 5 projects are dedicated to sustainable energy use and the circular economy.

Table 1: Categorization of EIP-AGRI projects in Slovenia by thematic areas (up to three categories per project).
Source: Authors' calculations based on EIP-AGRI beneficiaries' data provided by AKTRP RS, 2024.

Thematic area	**Number of projects**	**Share (%)**
New technologies for production, processing and breeding	28	26
Nature conservation and biodiversity	23	21
Climate change mitigation and adaptation	18	16
Sustainable management of water and soil	16	15
Precision farming and digitalization	12	11
Local food supply models	7	6
Sustainable energy use and circular economy	5	5

The comprehensive hierarchical representation of EIP-AGRI projects in Slovenia with sunburst chart (figure 5), which present main thematic areas and subcategories to reflect their multidimensional nature and focus, shows that new production, processing, and breeding technologies represent an important component of numerous EIP-AGRI projects, however, it does not dominate as a central thematic focus. While new technologies play a crucial role in supporting various project objectives, their presence is often integrated into broader themes rather than serving as the primary focus of the EIP projects.

Mitigation and adaptation to climate change emerge as significant themes, with projects addressing mitigation (three projects) and adaptation (five projects) prominently, these efforts are complemented by projects focusing on climate-adapted crops (two projects) and biodiversity and nature conservation (two projects), highlighting an integrated approach to enhancing climate resilience while protecting ecosystems. Additional contributions to this theme include new technologies (three projects) and digitalization (one project), showcasing the role of innovation. Moreover, climate change is also a recurring subtheme in several other areas, such as sustainable management of water and soil, biodiversity and nature conservation, precision farming and digitalization, demonstrating its cross-cutting significance and the interconnected nature of these projects.

Among EIP-AGRI projects in Slovenia, similarly represented are the themes of nature conservation, biodiversity and ecosystem services, precision farming and digitalization in agriculture, sustainable management of water and soil, with subtopics water quality and soil conservation, and different projects, focused on development of new technologies for production, processing and breeding. Fewer projects, however, focus on themes such as local food supply models and sustainable energy use and the circular economy. While these areas are less represented, they remain important components of the overall framework, contributing to localized solutions and energy efficiency within the broader context of agricultural sustainability.

Figure 5: Hierarchical representation of thematic areas and subcategories in EIP-AGRI projects in Slovenia.
Source: Authors' analysis and visualisation based on EIP-AGRI beneficiaries' data provided by AKTRP RS, 2024.

3.4 Funding Allocation Disparities

The allocation of funding within EIP-AGRI projects reveals distinct patterns regarding the primary beneficiaries and their roles in fostering agricultural innovation. Between 2018 and 2024, a total of 67 EIP-AGRI projects or operational groups have a combined value of 18.2 million € (AKTRP, 2024). The average approved project value is 271,331 €. EIP-AGRI projects are co-financed by the European Agricultural Fund for Rural Development (EARDF). The average co-financing rate was 89%, with funding ranging from 59% (9 projects) to fully funded projects (26 projects).

The funding distribution indicates a strong collaboration between academia, private enterprises, and public advisory institutions. Among the key beneficiaries, higher education and vocational training institutions (HEI/VET) received the largest share of funding (€4.24 million €) underscoring the EIP-AGRI emphasis on research, knowledge transfer, and the development of innovative agricultural practices. The second-largest beneficiaries were limited liability companies (LLCs), securing €3.7 million, which accounts for 18% of all allocated EIP-AGRI funds in Slovenia. This high share of funding for LLCs signals an ongoing trend towards privatization in the agricultural innovation sector, where private companies increasingly influence

research agendas and technological advancements. Given that EIP-AGRI projects are primarily financed through public funds, it is essential to ensure that these resources serve collective agricultural and societal needs rather than being disproportionately leveraged for private gain.

The Chamber of Agriculture and Forestry (CAFS) as the main agricultural advisory institution in Slovenia, with a public status, received 2.62 million €, underscoring its key role in advisory services for farmers, farmers support and policy implementation. Agricultural research institutes (one large public and several smaller research institutes) were allocated 1.91 million €. A diverse range of smaller actors, such as social enterprises, cooperatives, public institutes, and associations, have collectively received less than 13% of total EIP-AGRI funding in Slovenia. This highlights a concentration of financial resources among a few dominant players (academia, private companies and public advisory institutions), while smaller organizations may face challenges in accessing funding despite their potential contributions to innovation and sustainability. Farmers, despite their strong presence, received only 18% of total EIP-AGRI funding (figure 6). Strengthening the role of farms as co-creators of innovation, rather than just followers or demonstrators, could enhance their engagement and ensure that EIP-AGRI projects deliver solutions that are both practical and tailored to the realities of diverse farming systems.

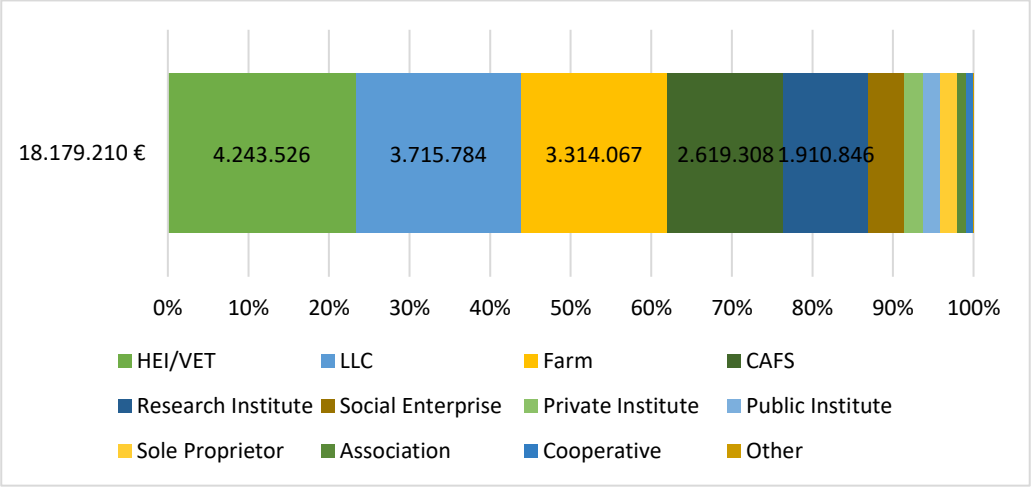

Figure 6: Funding allocation of EIP-AGRI by stakeholders' type.
Source: Authors' calculations based on EIP-AGRI beneficiaries' data provided by AKTRP RS, 2024.

4 Conclusion

It is evident that in the EIP-AGRI the linear approach to innovation persists (EU SCAR, 2012), transferring research knowledge between mainly public education and research institutions, public advisory services and farmers. The high share of funding allocated to limited liability companies (LLCs) also indicates a strengthening role of private companies in EU-supported agricultural innovation, reflecting a shift towards increased private sector involvement in agricultural innovation landscape. Farmers are acting mainly as followers, demonstrators, or test sites for new solutions rather than as active contributors to innovation co-creation. Strengthening the role of farms as co-creators of innovation, rather than just followers or demonstrators, could enhance

their engagement and ensure that EIP-AGRI projects deliver solutions that are both practical and tailored to the realities of diverse farming systems. Given the recognition that farmers often learn from other farmers, highlighting importance of peer-to-peer learning (Koutsouris et al., 2017), more attention should be given to ensuring that farms are recognized as equal partners within the EIP-AGRI framework — both in terms of decision-making and financial allocation—while also reducing administrative burdens associated with the 'projectification'.

The delivery of EIP-AGRI OGs in Slovenia appears to have progressed relatively swiftly, with comparatively limited emphasis on clearly communicating the purpose and opportunities of the EU initiative. As a result, access to these funds and participation in the projects was more prominent among a narrower group of actors and stakeholders, while some potential beneficiaries – particularly those less embedded in formal agricultural networks, may have been left out due to a lack of information or support. Fieldsend et al., 2021 proposed that to engage harder-to-reach groups may require the establishment of community-level knowledge brokering hubs could provide a solution. In Slovenia, this role could be fulfilled by Local Action Groups (Potočnik Slavič et al., 2022), which at least to some extents are already performing such a bridging and support function in regions where formal agricultural support structures are weaker or less accessible.

Thematic priorities in Slovenian EIP-AGRI projects are diverse, yet environmental issues dominate. In total, more than half of all EIP-AGRI projects address climate change as a significant secondary goal, demonstrating the importance of climate-related objectives across various thematic areas in Slovenia's agricultural innovation landscape. But less than 10 % of projects were identified as directly focused on climate change mitigation and adaptation. Surrounding this core, there are additional environmental supportive thematic areas that contribute to it, namely biodiversity conservation, soil health, and water resource efficiency. However, it raises questions about the actual impact of funded projects on climate and environmental improvements.

The extent to which these projects have effectively contributed to knowledge exchange, innovation creation and adoption, increased competitiveness and climate resilience (Kralj, 2024) remains unclear based on the available data. A comprehensive assessment of their actual impact would require extensive fieldwork and qualitative research, including evaluations of how well environmental issues were addressed and the broader impacts of funded initiatives. While some pilot studies have provided initial insights, a more systematic approach is needed to fully understand the outcomes and long-term benefits of EIP-AGRI. Additionally, it would be valuable to explore synergies with other programmes within the innovation landscape: LEADER/CLLD, LIFE, Horizon, Erasmus, INTERREG, informal co-innovation networks, etc.

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Povzetek

V okviru EIP-AGRI operativnih skupin v Sloveniji še vedno prevladuje linearen pristop k inovacijam, kjer se znanje prenaša med tremi ključnimi akterji: javnimi raziskovalnimi in izobraževalnimi ustanovami, javno kmetijsko svetovalno službo in kmeti. Kmetje v projektih pogosto nastopajo kot sledilci, demonstratorji ali zgolj preizkuševalci rešitev, namesto da bi sodelovali kot enakovredni sooblikovalci inovacij. Krepitev njihove vloge v inovacijskem procesu bi lahko izboljšala aktivno vključevanje in zagotovila rešitve, prilagojene dejanskim potrebam slovenskih kmetij. Še posebej ob dejstvu, da kmetje vrednotijo kot ključno učenje med kmeti, torej drug od drugega, kar pa zahteva priznavanje kmetov kot enakovrednih partnerjev v EIP-AGRI projektih ter razbremenitev administrativnih ovir, povezanih s projektno logiko izvajanja, ki jim je mogoče tuja.

Povečan delež finančnih sredstev, dodeljenih družbam z omejeno odgovornostjo, nakazuje na krepitev vloge zasebnega sektorja v EU podprtih kmetijskih inovacijah in premik k večji vključenosti tržnih akterjev. Nekateri akterji in deležniki pa so še vedno slabo zastopani v EIP-AGRI projektih, npr. različna društva, združenja, zadruge, socialna podjetja, javni zavodi itd. V Sloveniji se je izvajanje EIP-AGRI operativnih skupin začelo dokaj hitro po letu 2018, vendar s pomanjkljivim komuniciranjem namenov in priložnosti te pobude. Tako so imeli v prvih letih dostop do sredstev predvsem deležniki z dobrimi informacijskimi kanali in izkušnjami v kmetijskem sektorju, medtem ko so bili drugi – zlasti tisti izven formalnih mrež – pogosto izključeni. Ena izmed možnih rešitev za vključevanje težje dosegljivih skupin oz. akterjev na podeželju so lokalne posredniške točke znanja in informacij. V slovenskem prostoru bi to vlogo lahko še okrepile lokalne akcijske skupine (LAS), ki že opravljajo podporne funkcije v okoljih z omejenim dostopom do formalnih institucij. Večja zgostitev EIP-AGRI projektov je v vzhodni in osrednji Sloveniji, kar je povezano z vlogo kmetijstva, številom kmetij, pa tudi z mrežnim delovanjem podpornega okolja.

Tematska raznolikost slovenskih EIP-AGRI projektov je velika. Prevladujejo okoljske vsebine. Več kot polovica projektov obravnava podnebne spremembe kot spremljevalno temo. Vendar jih je manj kot 10 % neposredno usmerjenih v blaženje ali prilagajanje. Pojavljajo se tudi teme, kot so ohranjanje biotske raznovrstnosti, zdravje tal in učinkovita raba vodnih virov. Kljub temu pa ostajajo vprašanja o dejanskem učinku EIP-AGRI projektov. Za celovito oceno učinkov bi bila potrebna poglobljena terenska raziskava, vključno z evalvacijo rezultatov in iskanjem sinergij z drugimi programi razvoja podeželja in inovacij (npr. LEADER/CLLD, LIFE, Horizon, Erasmus, INTERREG itd.).