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D3.4 - Comparative Analysis Report

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¹ PU= Public, SEN= Sensitive.



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ACRONYMS & ABBREVIATIONS

AKIS	Agricultural Knowledge and Innovation Systems
CAP	Common Agricultural Policy
EU	European Union
LAG	Local Action Group
LEADER	Liaison Entre Actions de Développement de l'Economie Rurale
NGO	Non-Governmental Organization
STEM	Science, Technology, Engineering, and Mathematics
Project partners	
Galway	NATIONAL UNIVERSITY OF IRELAND GALWAY
TU Delft	TECHNISCHE UNIVERSITEIT DELFT
TEAGASC	TEAGASC - AGRICULTURE AND FOOD DEVELOPMENT AUTHORITY
UNICAL	UNIVERSITA DELLA CALABRIA
LWL	LONGFORD WOMEN S LINK CLG
UTU	TURUN YLIOPISTO
UL	UNIVERZA V LJUBLJANI
CE	CONSULTA EUROPA PROJECTS AND INNOVATION SL
HNEE	HOCHSCHULE FUR NACHHALTIGE ENTWICKLUNG EBERSWALDE
ELARD	ASSOCIATION EUROPEENNE LEADER POUR LE DEVELOPPEMENT RURAL
UOULU	OULUN YLIOPISTO
ECOLISE	RESEAU EUROPEEN POUR DES INITIATIVES COMMUNAUTAIRES SUR LES CHANGEMENTS CLIMATIQUES ET LE DEVELOPPEMENT DURABLE
MENDELU	MENDELOVA UNIVERZITA V BRNE
LNU	LINNEUNIVERSITETET
HLK	HOGSKOLAN FOR LARANDE OCH KOMMUNIKATION I JONKOPING - HLK SCHOOL OF EDUCATION AND COMMUNICATION



INTRODUCTION

The FLIARA project aims to create an inclusive and empowering innovation ecosystem for rural women, ensuring they are recognised, supported, and celebrated in their accomplishments. As part of this process, the key objective of the project's third work package (WP3) is to deepen our understanding and knowledge of the pathways to success and the challenges facing female-led sustainability innovations in farming and rural areas. More specifically, the WP consists of

- The development of the methodology for case study execution and identification of the sustainability innovation themes to use for case study selection (D3.1 and D3.2).
- The identification of female-led innovations for case study and to act as Innovation Ambassadors (M.1 and M.2).
- The analysis of female-led sustainability innovation case studies and a comparative analysis based on the assessment framework (D3.3, D3.4 and D3.5).

Deliverable 3.4 presents a comparative case study analysis, offering insights at both the macro-regional and European levels (T3.4). It emerges from the FLIARA Task 3.4 "Comparative analysis of the case studies by country and sustainability innovation dimension". This task uses the FLIARA assessment framework to conduct a comparison across four regions and finally to derive European level insights. We highlight the issues faced by women innovators and pathways to realise women-led innovations in both farming and in rural areas, organised under four sustainability innovation dimensions (environmental, economic, social and cultural).

1. DELIVERABLE OVERVIEW

This report is divided into two sections, in addition to this introduction. The introduction presents the prior knowledge from FLIARA that is of interest to this document. Here the methodology is laid out for the macro-regional reports, and the findings are summarised. It also gives an overview of the sustainability dimension impact of the female-led innovations. Farming and rural innovations have been analysed together. Galway has been responsible for the overview of sustainability dimension in the case studies.

The first section then presents the European insights derived from the four macro-regional reports. Farming and rural innovations have been analysed separately. The analysis was divided, with UNICAL responsible for the European insights on women-led innovations in farming and LNU responsible for the European insights on women-led innovations in rural areas. Throughout the task we have collaborated closely, allowing all partners to feed into the overall analysis.

The third section includes the macro-regional reports of the Atlantic region, the Baltic region, the Central and Eastern region, and the Mediterranean region.



2. BUILDING ON PRIOR KNOWLEDGE IN FLIARA

This deliverable builds on the insights from previous work in the FLIARA project, especially Work Packages 1 and 2, and previous work in Work Package 3. Below we lay out the basis of the prior knowledge from these Work Packages.

In Work package 1, a case study assessment and selection framework (T1.3 - D1.4) was developed to define the preliminary criteria for selecting case studies in WP3. This framework laid the foundation for the guidelines to evaluate pathways leading to women-led innovations in farming and rural areas, as well as the comparative analysis of case studies in WP3. These frameworks were built on the accumulated knowledge from the FLIARA Conceptual Framework (D1.1) and the FLIARA Knowledge Review (D1.2), along with the findings generated in WP 2, the Envisioning Process (D2.3). The assessment framework initially established in WP1 was then refined in T3.1 (D3.1).

This Work Package builds on knowledge from three previous studies in Work Package 2 (WP2) which used foresight and trend analysis (D2.1) to identify visions of sustainable rural and farm futures (D2.2), the required sustainable innovations to realise the visions (D2.3) and women's opportunities and challenges in contributing to these innovations (D2.4). The research was carried out in four macro-regions, nine national contexts and three different types of rural areas: rural village, remote rural area and rural area close to city. Involved in the work was a diverse set of stakeholders with knowledge about, influence over or experience from farming and rural areas (e.g. farmers and entrepreneurs, development and advisory organisations, LEADER groups, local policy makers and various NGOs).

The envisioning process (T2.1) of Work Package 2 highlight issues like social problems, biased interventions, and environmental concerns. A key finding was that common problems are not always the most important to solve. The visions included eco-friendly land use, infrastructure, collaborative networks, funding and vibrant social interactions. The innovation process (T2.2) of WP2 identified innovations to fulfil the visions, focusing on local development, agriculture, public policy, business, and culture. Key innovations included sustainable practices, new ways to organize communities, and novel products and services. The most common root causes were social capital, knowledge, funding, communality, and future farming possibilities, highlighting the diverse factors influencing rural sustainability. The assessment process (T2.3) of WP2 evaluated women's contributions to the sustainability innovations and identified measures to promote their involvement. Stakeholders rated the innovations and identified opportunities and obstacles for women. A survey highlighted that women excel in environmental and social innovations due to their networks and education, while economic-technological and political innovations were more challenging. Effective measures to support women included networking, knowledge, prerequisites, and incentives, though stakeholders and experts prioritized these differently.

Previous work in Work Package 3 examines 20 national case studies highlighting 200 female-led unique innovations in rural areas and farming across ten European countries.



These innovations focus on four sustainability pillars: environmental, social, economic, and cultural, and span three rural typologies: areas close to cities, rural villages, and remote rural areas. The work showcases the ingenuity and resilience of women in rural Europe, revealing a diverse and dynamic set of innovations. Despite challenges such as patriarchal norms, financial constraints, and infrastructural issues, these women gain community respect and inspire others by successfully managing their projects. They leverage support from partners, family, friends, financial grants, networks, technology, media visibility, and local governments, demonstrating resilience and adaptability.

The national case studies in Work Package 3 report on 100 female-led farming innovations and 100 female-led rural innovations, varying greatly across and within countries. These initiatives, many only recently established are led by educated women aged 26 to 78, and include environmental activities, community engagement, rural job creation, tourism, and education. The impact and influence of rural location on these innovations remains a topic of debate, as some countries attribute greater significance to other factors. Support from social circles and local communities is crucial, though work-life balance and infrastructure constraints pose challenges. Despite these, women leverage their rural environments, integrating community needs and creating urban-rural connections. Public funds, alternative funding, technical and business support systems, and supportive networks offer opportunities for innovative solutions.

3. METHODOLOGY FOR THE MACRO-REGIONAL REPORTS

The methodology for the macro-regional reports and Task 3.4 was described in D3.1. Task 3.4 involves a comparative analysis of the issues faced by women innovators in both farming and rural areas. The analysis was planned to follow three steps:

- 1) An analysis at country level of the case studies organised by the four sustainability innovation dimensions (environmental, economic, social and cultural). Each national team would be responsible for preparing the comparative report at the country level, which would serve as the basis for step two.
- 2) A comparative analysis within the four macroregional groupings. Teams related to the four macro-regions would work together to prepare the comparative report. In each group, a partner would coordinate the work. The macro-regions were laid out in D.3.2 and follows the composition in Figure 1 in which the macro-regional coordinator is highlighted.
- 3) An analysis of emerging issues across the four regions to derive European level insights. UNICAL, LNU and Galway would conduct this analysis.

Discussions with the macro-regional coordinators led to slight changes, and step 1 was not written as a separate report but rather directly incorporated into step 2.



Figure 1. Four macroregional groups.

No	Partner short name	Country	Macro-region	Coordinator
1	GALWAY	Ireland	Atlantic	X
2	TU Delft	Netherland	Atlantic	
3	TEAGASC	Ireland	Atlantic	
4	LWL	Ireland	Atlantic	
5	HNEE	Germany	Atlantic	
1	LNU	Sweden	Baltic	X
2	UOULU	Finland	Baltic	
3	JU	Sweden	Baltic	
4	UTU	Finland	Baltic	
1	UL	Slovenia	Central and Eastern	X
2	ECOLISE	Belgium/ covering Romania	Central and Eastern	
3	MENDELU	Czechia	Central and Eastern	
4	ELARD	Belgium/covering Romania	Central and Eastern	
1	UNICAL	Italy	Mediterranean	X
2	CE	Spain	Mediterranean	

Each coordinating partner of the macro-regions was responsible for coordinating the work with the comparative report at a macroregional level. All partners supported this process by providing the information requested and contributing to writing the macro-regional report.

The template of the macro-regional reports follows the national case study template used in Task 3.3 and is described in D3.1.

4. SUMMARY OF FINDINGS

Summarising the findings from T3.4 we see that both farming and rural innovations led by women share several similarities. They are driven by environmental, social, economic, and cultural motivations, with a strong focus on sustainability and community development. Women in both areas face significant challenges, including limited access to resources, bureaucratic hurdles, gender stereotyping, and balancing family responsibilities. Support from local municipalities, regional governments, partners, family, and local networks is crucial for their success. Both types of innovations have significant local impacts, enhancing rural liveability and promoting sustainable practices. Additionally, women innovators in both sectors are influencing social norms and



advocating for policy changes, despite facing varied political landscapes and support levels.

Based on Annex 1, each woman-led innovation, whether in farming or rural areas, impacted multiple dimensions of sustainability. Over 90 percent of the analysed cases had an impact on all four dimensions, with social sustainability being the most common and significant beneficiary. This conclusion highlights the need for more integrated policies that consider the various dimensions impacted by female-led innovations in the EU. Our interviews clearly show that these women influence sustainability beyond a single dimension. Therefore, supporting their ideas requires more integration among policies such as agricultural, social, environmental, and rural development. This integration would legitimize and further enhance the ability of women innovators to impact sustainability.

4.1 CONCLUSIONS FROM EUROPEAN INSIGHTS ON WOMEN-LED INNOVATIONS IN FARMING

Women engaged in farming innovations are driven by environmental, social, economic, and cultural motivations, with a strong desire to live close to nature, preserve local traditions, and promote sustainable practices. The women face constraints such as limited access to finance, land, specialised courses, and advisory services, along with bureaucratic hurdles, gender stereotyping, balancing family responsibilities, and inadequate infrastructure. Their favourable conditions include access to financial and material resources, support from local municipalities, regional governments, partners, family, and local networks, specific skills and knowledge, advantageous locations, and a strong attachment to place.

Women-led farming innovations have significant local impacts across environmental, economic, social, and cultural sustainability dimensions, enhancing rural liveability, promoting sustainable practices, and fostering community and economic development.

Political support for women-led farming projects varies greatly at local and national levels, with some accessing government programmes and others facing challenges like gender discrimination and lack of tailored support. Local municipalities and cooperatives play a crucial role in providing resources and networking opportunities, while technology and environmental concerns are central to many women's innovations. Some women place a higher priority on sustainable practices and community involvement, especially farm managers dealing with climate-related issues. Others, however, place a higher priority on sustainability since they are conscious of the larger climatic issues.

While no specific changes in formal laws or policies supporting women-led innovations have been noted across macro-regions, there has been a general increase in attention towards gender equality in farming policies. Women innovators are slowly changing public perceptions and triggering positive changes, with their participation in local institutions and informal networks amplifying their voices in policy discussions. Many



women prefer to keep their initiatives local, maintaining personal connections with customers, while spreading awareness about sustainable practices and collaborating with other actors to strengthen community ties. Despite the challenges, women-led innovations in farming are gaining visibility and recognition, with calls for more targeted financial and technical support to accelerate their impact and foster gender equality.

4.2 CONCLUSIONS FROM EUROPEAN INSIGHTS ON WOMEN-LED INNOVATIONS IN RURAL AREAS

Common themes motivating women innovators in rural areas include a focus on developing something in a particular rural place and meeting personal development goals. The economic aspects varied across the macro-regions with it sometimes being a key factor and sometimes not mentioned. All reports highlight how the women built their required knowledge and secured financial means step by step. Once up and running, the women innovators create local jobs, foster community engagement, challenge gender stereotypes, and contribute to rural economic, environmental, social, and cultural sustainability.

The most common constraints for women-led innovators in rural areas are access to resources, bureaucratic and funding hurdles, and work-life balance. In contrast, the most favourable conditions are also access to resources, community and family support, and networks.

Women innovators face significant bureaucratic and regulatory challenges, complicating business development. Access to public funds is crucial but often difficult, leading many women to rely on community funding, family support, and personal funds. Patriarchal social norms and expectations add to their struggles, though support from partners and local networks can help mitigate these challenges. Despite these obstacles, women innovators incorporate environmental sustainability into their projects and use technology to enhance their innovations, although digital skills and broadband quality are remaining obstacles. Political landscapes vary, with some benefiting from supportive regulations, while some highlight difficulties due to the war in Ukraine. Networks play a crucial role in connecting women entrepreneurs with resources and stakeholders, fostering community support and advancing their projects.

Women-led innovations in rural areas are driving policy, cultural, and economic changes. Some regions show promising initiatives for legal and institutional changes, while already showing local-level impacts. Scaling out is desired across these regions, though replication is mainly seen in some regions. Women innovators receive varied support, ranging from local networks to public or private funding. Challenges include bureaucratic issues, lack of tailored support, and gender stereotypes, but women are influencing social norms and advocating for policy changes.



SECTION ONE

COMPARATIVE ANALYSIS ON EUROPEAN LEVEL



INTRODUCTION

This report presents the results of the comparative analysis of the macro-regional reports conducted in the Atlantic, Baltic, Central and Eastern, and Mediterranean EU regions. A total of 200 female innovators were interviewed, of which 100 in the agricultural sector and 100 in other sectors in rural areas. We selected them by sustainability dimension, that is, whether their innovation primarily concerned environmental (EN), social (S), economic (EC), or cultural (C) sustainability, and by their location – remote rural (RR), rural village (RV) or rural location close to a city (RC).

For detailed country-level information including methodological considerations, we refer the reader to Deliverable 3.3 “Women-led Innovations in Agriculture and Rural Areas, Lessons Learned Report and Fact Sheets on Female Innovations”.

This section presents the findings in two different parts. The first part covers the European insights on women-led innovations in farming. The second part outlines European insights on women-led innovations in rural areas. The insights cover innovation pathways, innovation ecosystems, and mainstreaming actions, for farming and rural areas respectively.

1. OVERVIEW OF SUSTAINABILITY DIMENSION IN THE CASE STUDIES

The objective of this overview is to evaluate the social, economic, environmental, and cultural impact of female-led innovation projects through interviews, employing a standardised rating system. All 200 FLIARA interviews were linked via an excel sheet with each impact dimension (social, economic, environmental, and cultural) assessed using a rating scale of 0-5. Each rating was accompanied by an explanatory definition to guide the evaluation. For each interview, details of the innovation and its context were reviewed to select appropriate ratings using drop-down boxes, ensuring they accurately reflect both direct and indirect impacts. Each rating was justified with concise explanations referencing specific elements from the interviews, while a "Further Explanation" section was used to elaborate on how the innovations meet the criteria for their respective scores. After completing the data entry for all interviews, a final review was conducted to ensure consistency in ratings, clarity in articulating impacts, and alignment with the provided definitions and guidelines. This structured approach aims to ensure a comprehensive understanding of the sustainability impact of female-led innovations across different dimensions, aggregated beyond the analysis of innovations in farming and rural areas.

All partners were involved in this overview as the task was either carried out by the researchers who initially carried out the interviews, or those doing the analysis in Task 3.3. “Assessment of Case studies”. This evaluative case studies methodology allows the interviewees to score or rank various dimensions of the case study based on their perception of effectiveness, impact and innovation.



Each interviewee was initially selected based on one sustainable dimension. However, subsequent analysis of each county case study revealed that each woman-led innovation had an impact on more than one, and often all four sustainability dimensions. To strengthen this finding, further analysis based on the perceptions of the interviewers was carried out, resulting in the following annex that fully confirms the overall and significant impact these women and their innovations are having on all four sustainable dimensions.

From the 195 analysed interviews reported in Figure 2, we see that:

- 97% had a positive impact on social sustainability of which 61% had an outstanding and significant social sustainability impact.
- 96% had a positive impact on economic sustainability of which 55% had an outstanding and significant economic sustainability impact.
- 96% had a positive impact on environment sustainability of which 60% had an outstanding and significant environmental sustainability impact.
- 93% had a positive impact on cultural sustainability of which 39% had an outstanding and significant cultural sustainability impact.



Figure 2. Overall Overview of Sustainability Dimension

Total 10 Countries			Interviews	195
97.44%	Social Sustainability	24.10%	47	Outstanding Impact
Positive Impact		36.92%	72	Significant Impact
		24.62%	48	Moderate Impact
		9.23%	18	Some Impact
		2.56%	5	Minimal Impact
190 Interviews		97.44%	190	
		2.56%	5	Zero Impact
95.90%	Economic Sustainability	18.97%	37	Outstanding Impact
Positive Impact		35.90%	70	Significant Impact
		29.23%	57	Moderate Impact
		5.64%	11	Some Impact
		6.15%	12	Minimal Impact
187 Interviews		95.90%	187	
		4.10%	8	Zero Impact
96.92%	Environmental Sustainability	24.10%	47	Outstanding Impact
Positive Impact		35.90%	70	Significant Impact
		21.54%	42	Moderate Impact
		11.28%	22	Some Impact
		4.10%	8	Minimal Impact
189 Interviews		96.92%	189	
		3.08%	6	Zero Impact
93.33%	Cultural Sustainability	10.26%	20	Outstanding Impact
Positive Impact		29.23%	57	Significant Impact
		27.18%	53	Moderate Impact
		22.05%	43	Some Impact
		4.62%	9	Minimal Impact
182 Interviews		93.33%	182	
		6.67%	13	Zero Impact

1.1 ATLANTIC REGION

The data presents an analysis of sustainability impacts across three countries: Ireland, the Netherlands, and Germany with 69 interviews in total, see Figure 3. Each country evaluates four dimensions of sustainability: Social, Economic, Environmental, and Cultural, through case studies, reflecting the impact ratings of each dimension. Summarizing the data analysis we see that:

- 100% had a positive impact on social sustainability of which 67% had an outstanding and significant social sustainability impact.
- 93% had a positive impact on economic sustainability of which 58% had an outstanding and significant economic sustainability impact.
- 96% had a positive impact on environment sustainability of which 68% had an outstanding and significant environmental sustainability impact.
- 99% had a positive impact on cultural sustainability of which 51% had an outstanding and significant cultural sustainability impact.

Figure 3. Overview Atlantic Region



Atlantic			Interviews	69
100.00%	Social Sustainability	26.09%	18	Outstanding Impact
Positive Impact		40.58%	28	Significant Impact
		27.54%	19	Moderate Impact
		5.80%	4	Some Impact
		0.00%	0	Minimal Impact
69 Interviews		100%	69	
		0.00%	0	Zero Impact
92.75%	Economic Sustainability	18.84%	13	Outstanding Impact
Positive Impact		39.13%	27	Significant Impact
		26.09%	18	Moderate Impact
		4.35%	3	Some Impact
		4.35%	3	Minimal Impact
64 Interviews		92.75%	64	
		7.25%	5	Zero Impact
95.65%	Environmental Sustainability	20.29%	14	Outstanding Impact
Positive Impact		47.83%	33	Significant Impact
		17.39%	12	Moderate Impact
		5.80%	4	Some Impact
		4.35%	3	Minimal Impact
66 Interviews		95.65%	66	
		4.35%	3	Zero Impact
98.55%	Cultural Sustainability	13.04%	9	Outstanding Impact
Positive Impact		37.68%	26	Significant Impact
		30.43%	21	Moderate Impact
		14.49%	10	Some Impact
		2.90%	2	Minimal Impact
68 Interviews		98.55%	68	
		1.45%	1	Zero Impact

1.2 BALTIC REGION

The data presents an analysis of sustainability impacts across two countries: Sweden and Finland, totalling 36 interviews. Each country evaluates four dimensions of sustainability: Social, Economic, Environmental, and Cultural, through case studies, reflecting the impact ratings of each dimension. In summary, see Figure 4, we see that:

- 97% had a positive impact on social sustainability of which 47% had an outstanding and significant social sustainability impact.
- 97% had a positive impact on economic sustainability of which 53% had an outstanding and significant economic sustainability impact.
- 97% had a positive impact on environment sustainability of which 28% had an outstanding and significant environmental sustainability impact.
- 75% had a positive impact on cultural sustainability of which 14% had an outstanding and significant cultural sustainability impact.



Figure 4. Overview Baltic Region

Nordic - Baltic			Interviews	36
97.22%	Social Sustainability	8.33%	3	Outstanding Impact
Positive Impact		38.89%	14	Significant Impact
		30.56%	11	Moderate Impact
		16.67%	6	Some Impact
		2.78%	1	Minimal Impact
35 Interviews		97.22%	35	
		2.78%	1	Zero Impact
97.22%	Economic Sustainability	19.44%	7	Outstanding Impact
Positive Impact		33.33%	12	Significant Impact
		30.56%	11	Moderate Impact
		8.33%	3	Some Impact
		5.56%	2	Minimal Impact
35 Interviews		97.22%	35	
		2.78%	1	Zero Impact
97.22%	Environmental Sustainability	11.11%	4	Outstanding Impact
Positive Impact		16.67%	6	Significant Impact
		30.56%	11	Moderate Impact
		30.56%	11	Some Impact
		8.33%	3	Minimal Impact
35 Interviews		97.22%	35	
		2.78%	1	Zero Impact
75.00%	Cultural Sustainability	2.78%	1	Outstanding Impact
Positive Impact		11.11%	4	Significant Impact
		25.00%	9	Moderate Impact
		33.33%	12	Some Impact
		2.78%	1	Minimal Impact
27 Interviews		75.00%	27	
		25.00%	9	Zero Impact

1.3 CENTRAL AND EASTERN REGION

The data presents an analysis of sustainability impacts across three countries: Czechia, Slovenia and Romania totalling 50 interviews, see Figure 5. Each country evaluates four dimensions of sustainability: Social, Economic, Environmental, and Cultural, through case studies, reflecting the impact ratings of each dimension. For this region we see that:

- 98% had a positive impact on social sustainability of which 58% had an outstanding and significant social sustainability impact.
- 98% had a positive impact on economic sustainability of which 58% had an outstanding and significant economic sustainability impact.
- 95% had a positive impact on environment sustainability of which 62% had an outstanding and significant environmental sustainability impact.
- 94% had a positive impact on cultural sustainability of which 28% had an outstanding and significant cultural sustainability impact.



Figure 5. Overview Central And Eastern Region

Central and Eastern			Interviews	50
98.00%	Social Sustainability	30.00%	15	Outstanding Impact
Positive Impact		28.00%	14	Significant Impact
		24.00%	12	Moderate Impact
		10.00%	5	Some Impact
		6.00%	3	Minimal Impact
49 Interviews		98.00%	49	
		2.00%	1	Zero Impact
98.00%	Economic Sustainability	26.00%	13	Outstanding Impact
Positive Impact		32.00%	16	Significant Impact
		18.00%	9	Moderate Impact
		10.00%	5	Some Impact
		12.00%	6	Minimal Impact
49 Interviews		98.00%	49	
		2.00%	1	Zero Impact
96.00%	Environmental Sustainability	28.00%	14	Outstanding Impact
Positive Impact		34.00%	17	Significant Impact
		18.00%	9	Moderate Impact
		12.00%	6	Some Impact
		4.00%	2	Minimal Impact
48 Interviews		96.00%	48	
		4.00%	2	Zero Impact
94.00%	Cultural Sustainability	12.00%	6	Outstanding Impact
Positive Impact		16.00%	8	Significant Impact
		28.00%	14	Moderate Impact
		26.00%	13	Some Impact
		12.00%	6	Minimal Impact
47 Interviews		94.00%	47	
		6.00%	3	Zero Impact

1.4 MEDITERRANEAN REGION

The data presents an analysis of sustainability impacts across two countries: Spain and Italy, reporting on 40 interviews. Both countries evaluate four dimensions of sustainability: Social, Economic, Environmental, and Cultural, through case studies, reflecting the impact ratings of each dimension. In summary, see Figure 6, we see that:

- 93% had a positive impact on social sustainability of which 68% had an outstanding and significant social sustainability impact.
- 98% had a positive impact on economic sustainability of which 48% had an outstanding and significant economic sustainability impact.
- 100% had a positive impact on environment sustainability of which 73% had an outstanding and significant environmental sustainability impact.
- 100% had a positive impact on cultural sustainability of which 58% had an outstanding and significant cultural sustainability impact.



Figure 6. Overview Mediterranean Region

Mediterranean			Interviews	40
92.50%	Social Sustainability	27.50%	11	Outstanding Impact
Positive Impact		40.00%	16	Significant Impact
		15.00%	6	Moderate Impact
		7.50%	3	Some Impact
		2.50%	1	Minimal Impact
37 Interviews		92.50%	37	
		7.50%	3	Zero Impact
97.50%	Economic Sustainability	10.00%	4	Outstanding Impact
Positive Impact		37.50%	15	Significant Impact
		47.50%	19	Moderate Impact
		0.00%	0	Some Impact
		2.50%	1	Minimal Impact
39 Interviews		97.50%	39	
		2.50%	1	Zero Impact
100.00%	Environmental Sustainability	37.50%	15	Outstanding Impact
Positive Impact		35.00%	14	Significant Impact
		25.00%	10	Moderate Impact
		2.50%	1	Some Impact
		0.00%	0	Minimal Impact
40 Interviews		100.00%	40	
		0.00%	0	Zero Impact
100.00%	Cultural Sustainability	10.00%	4	Outstanding Impact
Positive Impact		47.50%	19	Significant Impact
		22.50%	9	Moderate Impact
		20.00%	8	Some Impact
		0.00%	0	Minimal Impact
40 Interviews		100.00%	40	
		0.00%	0	Zero Impact

Based on 200 interviews and 20 case studies, this report emphasises the important and diverse effects of female-led innovations in rural and agricultural areas across 10 EU nations. These innovations regularly provide positive outcomes across all four sustainability aspects, according to the analysis, which is organised around these four dimensions: social, economic, environmental, and cultural. Remarkably, with large percentages (39–61%) being regarded as exceptional or noteworthy, 97.44% of the innovations had a positive social impact, 95.90% an economic impact, 96.92% an environmental impact, and 93.33% a cultural impact. To ensure uniformity and clarity in assessing both direct and indirect effects, the technique used a standardised scoring system (0–5).

The extensive impact of these innovations is further highlighted by regional evaluations, which demonstrate that the Atlantic region excels in social and environmental sustainability while the Mediterranean region has particularly strong environmental and cultural consequences. All things considered, the results demonstrate that innovations spearheaded by women are bringing about revolutionary change in every aspect of sustainability, highlighting their vital role in promoting sustainable development in rural regions.



2. EUROPEAN INSIGHTS ON WOMEN-LED INNOVATIONS IN FARMING

2.1. INNOVATION PATHWAYS

Women across the different FLIARA macro-regions are motivated by a combination of environmental, social, economic and cultural reasons. A common trait across countries, rural typologies and sustainability dimensions, is the desire to live close to nature, in a rural area stems from women's deep connection to the land, whether through family or a partner's roots, or simply a personal affinity for the landscape and rural way of life. Hence, they engage in a farming project to find a way to make a living in a specific rural area, contributing to making it liveable, enjoyable and sustainable for themselves and their family, as well as for others. In the cases, where women inherited the farm from their family, the motivation extends beyond tradition and continuity, they also seek to modernise the business by introducing new ideas and innovations.

Environmental and climate change related concerns stand out as important across sustainability dimension projects. Several women engage in organic, regenerative, biodynamic farming practices, ensuring diversification and the highest well-being of the animals they raise on the farm. They also take on recycling and upcycling strategies. Connected to this are two other important traits of women-led innovation in agriculture across regions. Firstly, the desire to spread awareness about ethical and sustainable food production and consumption habits, preserving the local ecosystem and heightening the values of consuming local products (in terms of health, environment and local economy). Secondly, the willingness to preserve local crop varieties, farming techniques and breeds, to valorise the local and family farming and animal-husbandry history and traditions, which are thought to be the most sustainable and fitting for the local environment (a point that is particularly important in the experience of women innovators focusing on cultural sustainability).

In addition, another motivation, especially for those women engaging in social sustainability projects, is the desire to engage in community projects and community development (especially in rural villages and remote rural areas), involving the local population, collaborating with other women, as well as targeting marginalised groups of people, such as migrants, disabled people or women living in vulnerable situations.

Economic motivation does not appear as the main driving force to engage in farm innovations. However, making a farming business economically sustainable and gaining economic independence is of course important (and a goal) for all the women interviewed.

CONSTRAINTS

A first major constraint across macro-regions, sustainability dimension and rural typologies is access to finance (except in Czechia). This is an issue particularly for women who did not inherit a farm or another asset and want to 'start their project from



scratch' or for those who are trying to innovate introducing new, non-traditional, non-agricultural activities on farms. Women innovators find it difficult to identify appropriate financial support programmes, as they are often not eligible for funding by virtue of their type of business or the design of the programmes themselves. Access to bank loans is also difficult when women want to start innovative farming businesses and do not already own collateral or a land plot. They often rely on personal savings, on the financial support of family members or additional jobs to sustain themselves while developing their innovative farming business.

In relation to this, bureaucracy and administrative requirements are also important constraints hindering women's innovative actions. Legal requirements (e.g. for direct marketing and herding activities in Germany and for educational farms in Italy) may also be a constraint when it comes to more innovative farming practices.

Access to land is an issue in several countries across macro-regions particularly in Italy, Spain, the Netherlands, Ireland, Germany, Czech Republic and Slovenia, and more so in areas close to cities. Sales prices and rents are too high, and very difficult to afford for women who start their own business.

Access to specialised courses (e.g. in organic farming or to develop business and communication plans) and to agricultural advisory services is also mentioned as limiting factors in several countries across regions, including in Italy, Germany, as well as in Slovenia.

Another relevant issue faced by women across regions, and more sharply by women innovators in the Mediterranean and Atlantic (especially in the Netherlands) context, is related to gender stereotyping. Women farm managers are still a minority and farm machineries and clothes are mainly produced with male bodies as the standard. As such, women innovators in farming are perceived by society with scepticism. They are often defined as "crazy" for their innovative ideas, especially if they engage in organic, biodynamic agriculture or have creative ideas to expand multifunctional farming; or they are defined as "hobby farmers". Women gain credibility and respect only with time, after proving that their business is successful. This also relates to the negative image of the agriculture sector (especially in Czechia, partly in Italy) and the family and community resistance to women engaged in agricultural studies, most notably in Germany.

Combining family/care responsibilities with entrepreneurship and thus balancing work-life commitments is another challenge for most women innovators in farming. It becomes more difficult in remote rural areas where childcare services are limited or not available (e.g. in the Mediterranean region; in Ireland). Besides, women-led businesses are often not large or profitable enough to hire help, so women farm managers have to deal with the workload by themselves and by asking support from family/friends. In some countries – e.g. in Czech Republic, Germany, the Netherlands – a lack of workforce specialised in the farming sector is also an issue.

A lack of infrastructure is another issue that women innovators face, especially those residing in remote rural areas across macro-regions. For instance, a lack of suitable



transportation can limit the number of tourists and local visitors that can get to a farm (e.g. in Italy, in the Baltic and Eastern macro-region). Inadequate internet connectivity in some rural areas (e.g. in Spain and Ireland), also limits women's possibilities to access information, advertise their business on social media, or access digital markets and modern Agri-tech solutions.

FAVOURABLE CONDITIONS

First of all, the availability of financial and/or material resources is fundamental to develop innovative projects. Women who inherited a farm or a land plot are of course advantaged in this regard, across countries, sustainability dimensions and rural typologies. Those who start their project from scratch, on the other hand, have to rely on their own and/or their family's savings or find finances through public support programmes or bank loans to start their businesses: something that is not easy as mentioned above.

Support provided by the local municipalities and by the regional governments is also an important favourable factor. In Germany, women innovators have the advantages of long-standing labour laws and robust regional support, which help them notably in developing their projects. In the Mediterranean countries, such support is not structural and varies from place to place but a few women were significantly supported by the local municipality, which allowed them to enhance their projects.

Support of partners and/or family members was mentioned as a fundamental condition to develop a farming business across regions, sustainability dimension and rural typology. Support could be in the form of time invested in the business (helping with management, sale and organisation of farm-based activities and services), provision of finances, sharing care responsibilities as well as emotional support.

The reliance on and support of the local community and of local networks (of local farmers, entrepreneurs, women in general, other associations/organisations) is also fundamental across countries and cases. Women use networks to advertise and sell their products, to navigate bureaucratic matters and find information, to gain and share knowledges, skills and resources and to find volunteers that can help in their farm development projects, while gaining skills and knowledges.

Possessing or having the chance of developing specific skills and knowledge is another favourable condition in developing an innovative farming business. The women who studied agricultural science use their scientific expertise to develop specific innovations. The women who inherited a farm often gain knowledge and skills through their relatives. However, many women need specialised courses (e.g. on organic farming, business development) to develop specific skills. The availability of such specialised courses varies across regions: women in the Mediterranean countries complained about the lack of courses funded through the public school system or local institutions. In other countries such as the Netherlands, women seemed to find more possibilities to access farm-related courses.



In the Baltic region, and particularly in Finland, it was also mentioned that being a woman can sometimes represent an advantage, especially in farm-related social care and hospitality businesses.

Another advantage is represented by the location of a specific business/farm project. Being close to a city or major tourism hub means attracting more tourists, volunteers and visitors in general, as well as being able to connect to more consumers' networks and markets, which contributes to the sustainability of a farming business.

In general, attachment to place also emerged as a favourable condition across regions, sustainability dimensions and rural typologies. Attachment to a place, or sense of belonging, fosters emotional embeddedness and commitment towards the farm and the wider rural areas, enhancing rural sustainable development and encouraging people to stay and tourists to come and visit.

FORMS OF IMPACT

Women innovators in farming are usually modest in talking about the impacts of their innovations. This emerged particularly in the Atlantic regions. At times, gender discrimination also brought women themselves to experience 'the imposter syndrome', particularly at the start of their innovation journey (examples in Ireland). This issue seemed less prominent in the Central European context. Throughout all macroregions, women-led farming innovations are becoming more well-known and recognised, not least thanks to media coverage and visibility. This is slowly changing the narrative, acknowledging the value and diversity of women-led innovation in farming.

The impact of women's farm projects across regions are multiple and relevant, especially at the local level, spanning across and interweaving environmental, economic, social and cultural sustainability dimensions. Their innovations contribute to make rural places more liveable for local people (offering farm-based products, activities and services to the local population) but also more attractive for tourists (offering leisure and educational activities and traditional products, enhancing the local cultural and environmental heritage and richness). In this way, women also pave the way for future generations, showing how farming, with all its possible multifunctionalities, can offer creative and sustainable ways to make a living in a rural area.

Across sustainability dimensions and rural typologies, most innovations in farming focus around bringing people closer to agriculture by linking products and services to storytelling aiming at building close connections and relations between producers and consumers and the rural environment around them. Spin-off value to the wider farm community was also an observed impact as innovators interacted with other local businesses creating local economy interlinkages, thus boosting the local economy.

Projects focusing on environmental sustainability across diverse rural typologies put considerable attention into the production process, practicing organic, biodynamic and regenerative agriculture and ensuring animal welfare. This highlights cutting back on



emissions, pollution, and fertilizers and preserving biodiversity. Cultivating local traditional crops, raising traditional breeds, and practicing traditional farming techniques are central aspects of environmental sustainability projects in many countries.

Raising awareness about sustainable and healthy agricultural production and consumption habits, the importance of biodiversity, and of taking care of the local ecosystem are also important aspects of most projects analysed across different macro-regions, not only those focusing on environmental sustainability. In this regard, educational activities are central in many farming projects.

Social sustainability-related projects revolve around the creation of farm-based social services across macro-regions (e.g. farm kindergartens, farm visits, animal assisted walks and therapies, cooking workshops). Often, these activities target specific marginalised groups (migrants, people with disabilities, women living vulnerable situations), and thus they foster social inclusion and gender equality. Other social sustainability projects concern agroecological farms and food cooperatives and consumer groups that involve the local community through the organization of social events and short supply chains (consumer groups, local markets, weekly deliveries, and Community Supported Agriculture (CSA)).

Innovations in terms of economic sustainability span from producing and selling specific farm products to developing farm-related activities and services, including agritourism/ecotourism (across all macro-regions). In the Atlantic macro-region, projects focusing on economic sustainability also entail local food delivery networks, Community Supported Agriculture (CSA) and harvest subscriptions to multipurpose farms and online food delivery services. In other cases, found in the Baltic macro-region, economic sustainability is expressed through the commercialisation of specific agricultural technologies. Moreover, the largest farms analysed across macro-regions can hire local workers and professionals, creating jobs and further boosting the local economy.

Cultural sustainability-related outcomes concern the preservation of the local cultural heritage (across all rural typologies) in terms of, among others, farming and breeding practices, food transformation practices (e.g. production of traditional cheeses), preservation of local traditional seeds as well as of transportation methods (e.g. through horses). This contributes to feeding the local cultural identity and to promoting a specific rural area. The organisation of events like regional agricultural festivals that feature local products is another example of how cultural sustainability is expressed.

2.2 INNOVATION ECOSYSTEMS

Political circumstances vary greatly at the local (municipal) level, as well as at the national level, so it is difficult to outline common traits in terms of political support across macro-regions.

Many women across various countries, leading projects in different sustainability dimensions and rural typologies, have accessed different support programmes sponsored by the national and regional governments (through the CAP – including



LEADER interventions and other national programmes). Though not specifically designed for women, these incentives have helped develop specific aspects of the business.

Women leading or co-leading large farms with a solid record of profitability (focusing on economic sustainability) turn more easily to banks for financing (e.g. in the Baltic region) and have more options to access public grants (e.g. through the CAP). Limited access to bank loans was at times also associated with gender discrimination.

At the local level, support provided by local municipalities varied greatly. In some cases, women could establish agreements with local municipalities to use public land plots/forests or public buildings to develop parts of their farm projects (e.g. in Italy). In other cases, women felt that local government's investments in infrastructure, such as broadband internet or transport links, significantly benefited their businesses, enhancing their ability to reach broader markets and improve their service offerings (e.g. in Spain). In some cases, provincial policies also supported crop rotation, biodiversity and organic farming (e.g. in the Netherlands).

Despite this, women across countries experience lack of support by the national and local governments, stressing the need to strengthen EU, national and local programmes and initiatives targeting women specifically as well as “alternative” (e.g. organic, biodynamic, regenerative) modes of farming. In all countries, women highlighted the lack of support to identify and understand grants, to develop a business plan and to understand constraints and requirements to develop a business. Lack of services (e.g. for childcare, public transportation) is also often mentioned as an issue, especially in some remote rural areas. Lack of tailored mechanisms to address the impacts of unpredictable weather conditions and of climate change, such as financial assistance for crop losses or adapting farming practices to changing climatic conditions is also noted, for instance in Slovenia and Czechia.

On the contrary, participation in and support from local agricultural cooperatives, associations and organisations have been observed as relevant. These groups often provide a platform for networking and resource and knowledge sharing, enhancing women's ability to navigate market and regulatory challenges.

Alternative financing systems such as crowdfunding or consumer pre-payments have also emerged – in some cases (especially for projects focusing on social sustainability – as viable alternatives, helping to finance initial project phases or products in advance (e.g. in the Netherlands and in Spain).

Moreover, women farm managers' active involvement in institutional bodies (at different levels) turned out as being always positive for political change towards gender equality and rural sustainability across different rural typologies.

Technology plays a key role in farm-based innovations, across all macro-regions, sustainability dimensions and rural typologies. Firstly, internet connection is fundamental to facilitate the functioning of many technological breakthroughs. Websites and social



media are central to almost all projects analysed, to advertise, promote and sell farm-related products and services. Online magazines, blogs, information portals and online courses are also important tools to gather information and connect with other farmers. Moreover, internet connection is also essential to apply for funding and support programmes, to organise sales and keep the accounts. Besides, many women innovators across macro-regions engaged in the use and development of advanced technological and digital tools to enhance productivity and sustainability in the farm. Examples are robots (such as weed-removal robots) in the Netherlands; integrated GPS tracking for livestock management in Spain; hardware development for lupine processing in Germany; high-tech dairy farm in Sweden; or computer-controlled greenhouses in Slovenia. These projects mostly focused on economic sustainability.

Environmental aspects are central to all women-led innovations analysed across macro-regions, sustainability dimensions and rural typologies. The availability of natural resources like forests, wetlands, water and fertile soil and climatic conditions strongly influence the type of crops grown in different rural areas across Europe and the type of animals that are raised. This is because most women are influenced by a deep concern around climate action and environmental change and try to do something to address these issues in their work, by practicing organic, regenerative or other types of sustainable farming (non-extractive, chemical-free), by ensuring the highest standards of animals' welfare and by spreading awareness about how to live in a more sustainable way (consuming local healthy and organic food, recycling, upcycling, etc.). Notably, the women farm managers who are practicing organic farming are never driven exclusively by economic incentives (even in the case of projects focusing on economic sustainability) but are also motivated by ecological/ethical principles.

Even when affected by climate change and environment-related issues such as drought, invasion of beetles destroying the forest, or wild boars destroying meadows and fields, they try to act respecting the local ecosystem as much as possible. Using biodegradable and reusable materials, recycling and upcycling, encouraging environmental responsibility at local markets is a characteristic of many of the projects analysed across sustainability dimensions and rural typologies.

2.3 MAINSTREAMING ACTIONS

Across macro-regions no specific changes in formal laws, policies, institutions or norms supporting women-led innovations have been noted. At the EU level and across countries, there has been a general, though in increase in attention to gender equality in farming-related policies and programmes, as well as broader initiatives, in recent years, particularly in the Baltic and Atlantic regions. An interesting example in this regard comes from Germany where one woman was invited to the Ministry of Agriculture to join a working group that developed a specific value chain support measure under the Rural Development Plan. In the Netherlands, calls for updated environmental regulations are fuelled by ideas pioneered by women, especially in the areas of nitrogen emissions and sustainable farming. In any case, across macro-regions, women innovators are slowly



changing the public perception about women involved in farming and triggering positive changes.

The active participation of women farmer entrepreneurs in local institutional bodies (e.g. municipal council) emerged as important to support and enhance the impact of women-led innovations in a specific rural area.

Women rarely work in isolation but nearly always collaborate with other actors (other farmers, as well as with local governments, institutions and organisations), developing great networks, strengthening community ties and thus widening the scope of their projects. The participation of women farmer entrepreneurs in informal networks, as well as in farmer and entrepreneur associations, organisations and cooperatives also turned out to be extremely important to amplify women's voices in policy discussions, highlighting their specific needs.

A few initiatives have achieved great degrees of scaling out, establishing nationwide networks and models (e.g. a nationwide network of cow-calf dairy systems in Germany). Most of the initiatives across macro-regions, however, remain very localised and specific to a context.

Many women see a value in remaining small, keeping personal contacts with costumers and consumers and offering unique traditional products and services/activities. This does not mean that they do not appreciate other women taking inspiration from their practices (and implementing them elsewhere) and that they do not have significant resonance and impact within their community and wider.

A central aspect of women-led innovation in farming across macro-regions (especially of those projects focusing on social, environmental and cultural sustainability) is exactly to spread awareness about sustainable and ethical ways of producing and consuming food as well as about living well in a healthy rural environment, through the promotion of farm kindergartens, workshops and activities. In this regard, innovations have broad impacts, much beyond the localized project itself.

Besides, across macro-regions most women develop engaging communication strategies, through websites and social media, to promote and sell their products and services thus gaining visibility beyond their rural area, as well as attracting tourists. Moreover, some women across macro-regions have won regional and national prizes for their innovations, gaining ample visibility at the national level.

Across macro-regions, and in relation to projects across sustainability dimensions and rural typologies, there are examples of scaling in, with women receiving support from organisations/institutions to improve skills and knowledges.

However, in general, support from local organisations and institutions should be enhanced, as very often women had to find finance, material assets and learn skills by themselves and by self-financing, without any support. Public-private collaborations



should be strengthened, e.g. through the provision of public land plots, forests, buildings and spaces.

The role of AKIS (Agricultural Knowledge Innovation Systems) in supporting women in farming still remains very marginal, with the vast majority of women across countries being unsure or totally unfamiliar with the concepts or practices of AKIS. Women focusing on environmental sustainability (e.g., those practicing agroecology or organic farming) appeared to be more likely to know about AKIS and use its resources to stay updated on the latest research, technology, and best practices in sustainable agriculture – participating in training sessions or field trials organised by research institutions and agricultural cooperatives affiliated with AKIS.

Women are modest about the changes triggered by their innovations in terms of gender equality, and these changes vary across countries and rural contexts. In some countries (e.g. Italy, Spain, Ireland) gender discrimination seems to be experienced more heavily than in other countries (e.g. Finland, Sweden, the Netherlands).

However, what is common across countries is that women leading farm businesses in such male-dominated sector (farming), across macro-regions, became role models and inspired other women to develop their innovative ideas, including by finding creative ways to interweave domestic/care work and farm work.

Habits, beliefs, and social relations are slowly changing thanks to these women's innovative actions. This impact is more visible at the local level – with women gaining recognition within their community and their networks and sometimes even at a broader level (gaining national visibility). Some senior farm innovators also reported that they noticed gender norms in farming change for the better during their lifetime. The path to gender equality in farming is, however, still long.

Increasing the active participation of women in local institutions and organisations, so that they can play important roles in influencing decision-making processes, is fundamental to foster gender equality as women can give voice and visibility to the specific challenges and needs of women farmers.

Providing targeted financial and technical support for women leading innovations in farming would be key to accelerate the scaling-up of farm projects with great emphasis on all dimensions of sustainability and boosting gender equality. As part of this process, policymakers at different levels and across countries should consider gender implications in all agricultural related policies, making sure that they are able to be supportive of women's specific needs, including in relation to maternity allowances and pension schemes.

It would be useful to improve support for sole managers and independent businesses. Across all dimensions of sustainability, it emerged clearly in the Atlantic, Mediterranean and Eastern macroregion, the need for dedicated policies (at local, national and European levels) targeting women who currently play and could play significant roles in farm innovation and diversification. These policies could have a specific focus on farm



diversification, start-up/enterprise further development, and development of education and skills related to these areas (e.g. farm business skills, VAT/Tax issues).

Another policy measure suggested concerns technical support and advisory services to women who want to apply for grants to develop their innovative ideas. Women should have access to clear and comprehensive information about grants and programmes, as well as support in developing business plans to maximise their opportunities for success. Such advisory services should be offered as a public service, which has the potential to enhance rural innovation. Another way to strengthen the scaling out potential would be to establish mentorship programmes where experienced women farmers can guide newcomers in different farming sectors and where best practices could be transferred effectively. In this regard, there is a real need for a greater integration of AKIS with practical supports for women in different rural contexts (e.g. through the LAGs), making training and policies more inclusive for women.

There is a need for a different tax and real estate policy for farms in areas with limited opportunities for agricultural activities, such as mountain farms (e.g. in Slovenia) and small-scale farming. Calls for tender by municipalities for small farm investments and more interaction within the Local Action Group (LAG) can provide opportunities to advocate for more inclusive policies and support mechanisms for (women) farmers.

On a more specific level concerning environmental sustainability, it emerged clearly across macro-regions that women farm managers tend to focus their innovations on organic, biodynamic and regenerative farming, which are key to the sustainable development of rural areas. In relation to this, it would be important to allocate more funding and resources to support these types of agriculture models (e.g. through microcredit programmes, specialized courses, provisions of seeds and agricultural tools). Moreover, access and use of renewable energy technologies should be further supported, through programmes targeting women innovators specifically.

For what concerns economic sustainability, women across macro-regions play a central role in promoting more direct relations between producers and consumers. They sell products and services locally, at local markets and through different types of consumer associations and short food supply chains. In doing so, they have shown that there are alternatives to mainstream consumption habits characterised by an unsustainable footprint. Such networks deserve greater support at the local level, for instance by providing women with spaces where they can organize markets and store products.

Regarding cultural sustainability, women farm managers are implementing important initiatives to enhance local cultural and historical farming heritages. Such initiatives (the cultivation of traditional seeds, the promotion of local products, the employment of traditional transportation means, the organisation of festivals and other cultural events) should be supported and financed through private-public collaborations as they enhance the specificity of a rural area, making it attractive to tourists and fostering a sense of community and identity among local people.



Improving infrastructure and availability of services in rural areas (all typologies) would also greatly support women-led businesses: having access to public infrastructure and services (public transport, schools for children of different ages, women's clinics, afternoon activity services for school-age children, among others as well as access to markets), especially in remote rural areas. (e.g. in the Mediterranean macro-region and in Slovenia).

At the local level, granting public spaces (land plots, buildings) at favourable rates or through loans for use would also help women farm managers, especially those who lack the material assets to start or to further develop their projects.

In general, across macro-regions, it would be important to strengthen the visibility given to women innovators, by narrating women's successful stories on different media, and inviting them to participate in different events and festivals.

3. EUROPEAN INSIGHTS ON WOMEN-LED INNOVATIONS IN RURAL AREAS

3.1 INNOVATION PATHWAYS

While the motivations for the innovators vary across the 10 EU countries, there are three patterns that were repetitive: the rural place, an economic aspect, and personal development. One is the focus on doing something sustainable and good in a particular rural place. Then the motivation comes from the desire to live and work close to nature in a rural area, sometimes opposing living in the city. This is not highlighted in the Atlantic report but more so in the Central and Eastern, Baltic and Mediterranean reports. Secondly, the economic aspect varies across the macro-regions. In the Baltic region none cited economic motivation as a prime motivator, but they realised that they had to make ends meet which formed their trajectories. This contrasts with the Atlantic region where economic sustainability is a key motivator. In the Atlantic, Central and Eastern, and Mediterranean macro-regions, an economic focus is integrated with other goals, especially other sustainability goals such as fostering community engagement and social inclusion in their rural area. Thirdly, personal development is a key motivator where the Atlantic report highlights spreading awareness of sustainability issues and a wish to innovate, the Central and Eastern report highlights the importance of welfare of the innovators' specific community, the Baltic report highlights the wish to realise a particular idea and to forge a particular career, and the Mediterranean report highlights a wish to enhance local resources and foster community engagement through their projects.

The initial steps these women took to make something out of their motivation varies and there are no clear patterns. However, all reports highlight how the women built their required knowledge and secured financial means step by step, but the nature and scope of these steps varied widely.



Below are the constraints (Table 1) and the favourable conditions (Table 2) present in at least three out of four macroregional reports. The constraints and favourable conditions that are present in all four macroregional reports are marked in bold. The constraints and favourable conditions are listed in alphabetical order.

Table 1. Constraints for women-led innovators in rural areas.

Constraints	Explanation
Access to resources	Difficulty in finding established networks, securing land and facilities and accessing information, service and transportation due to inadequate infrastructure. Also lack of volunteers and engaged specific groups.
Bureaucratic hurdles	Bureaucratic obstacles such as delays, and time-consuming regulations need to be navigated. There is a lack of political support and interest that hinder the development of the innovative project.
Community credibility and support	Struggle to gain credibility and support and to foster community engagement and social inclusion, from local people and public officers due to patriarchal social norms and scepticism towards female leadership and women innovators/entrepreneurs.
Funding hurdles	Limited access to specific grants, loans, funding and financial support, both for startups and expansion. This leads to unstable funding. A need to rely on personal savings, resources, and networks. The impact of inflation/recession on customer spending.
Work-life balance	Difficulty juggling caring responsibilities and business management due to a lack of access to social services like childcare. There is an issue with work overload.

Table 2. Favourable conditions for women-led innovators in rural areas.

Favourable conditions	Explanation
Access to Resources	Support from knowledge institutes and the use of personal resources like home offices, broadband. Inheriting or using family-owned spaces and being able to utilize local agricultural products. Women from privileged backgrounds benefit from more resources.
Community Support	Local community support through access to active local associations and engaged volunteers, along with local media coverage and public recognition. Provision of useful services builds credibility and trust. Availability of government-owned facilities aids development, especially in remote areas.
Family Support	Family and partner support, including access to family land and resources. Family provides practical and emotional support, along with sharing caregiving and domestic responsibilities so women can manage business demands and navigate gender role challenges.
Networks	Networking is used for launching initiatives, accessing support, and building entrepreneurial skills. It provides emotional support and fosters collaboration and business opportunities.
Political and Institutional Support	Political assistance is available, particularly in remote rural areas, with regional agendas and politician support facilitating processes.



	Access to technical, financial and business support systems through public organizations, incubators, and universities is favourable.
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The Atlantic, Baltic, and Central and Eastern macro-regions report local job creation as a prevalent impact of the innovations. For all four macro-regions, fostering community cohesion is also evident. The Mediterranean report highlights that the women develop their businesses to enhance the local environmental and its cultural and artistic heritage, attracting tourists and boosting the local economy as well as enhancing local engagement and a sense of community. In the Central and Eastern report, the impact on the community is seen in how women innovators foster social cohesion and local inclusion.

All innovators challenge gender stereotypes through greater female participation in economic development and decision-making. They prove to men and women, and to young people, that women can run successful operations and thus became role models.

Also, all innovators contributed to rural economic sustainability since they have an innovation in a rural area, and most also contribute to environmental, social or cultural sustainability.

As such, highlighted here is the notion that while the women were chosen based on a single sustainability dimension, most dimensions are present in their innovation pathways.



3.2 INNOVATION ECOSYSTEMS

Bureaucratic hassles pose significant challenges to women innovators. These challenges affect the ease of business development. In the Baltic the difficulty for small businesses and start-ups are highlighted. Start-ups find it difficult to navigate the regulatory and support systems, especially without business education. These smaller businesses also struggle to comply with the same rules and regulations as larger businesses. Similarly, the Mediterranean report highlight that public programmes often have complex processes and eligibility criteria that do not specifically address the unique challenges of rural women innovators.

The Baltic macro-regional report highlighted the current geopolitical state with the war in Ukraine and the potential for political demands tied to public support as difficulties to navigate. The Central and Eastern report focus on how the “for show” gender equality initiatives does not really have any practical influence on women innovators. Nonetheless, in the Mediterranean region the political landscape does not significantly impact women's motivations to innovate. Instead, political decisions and regulations can help address challenges they face. Women in the Mediterranean region access various support programs sponsored by national and regional governments to develop skills in areas like digital technology, agricultural practices, and business management.

Access to public funds (like LEADER, national, and EU funds) is crucial for all regions but often difficult to obtain. Most support systems are geared towards large, STEM-focused businesses, often excluding non-profit organisations and non-economic activities, as well as social enterprises as highlighted in the Central and Eastern macroregional report. Instead, the women use a combination of community funding, family support, and personal funds to sustain their projects. As such, in the Mediterranean region most women started their projects or businesses without initial financial incentives. Financial support was typically sought later to expand existing activities. In the Atlantic macroregion, innovators achieved a balance between environmental, social and cultural sustainability by integrating economic strategies such as volunteering and using family assets. However, for the Baltic area, sustainability dimensions were not highlighted. Instead, the organizational forms, for-profit business or non-profit organisations, was more important since they are eligible for different sorts of funding.

Similar to the bureaucratic hassles, women innovators found the funding application processes complex and felt that traditional funding sources were not designed for small-scale rural businesses in different stages of development. The Baltic, Central Eastern and Mediterranean reports highlight the additional barriers of high-interest rates and the need for significant initial capital.

Women innovators also face significant challenges due to patriarchal social norms and expectations about their roles as caretakers. They often struggle to balance domestic responsibilities with business development and face scepticism, especially if they are new to the area or work in male dominated fields. These struggles are overcome in the



Baltic area by support from partners and families. Partners could be co-owners or provide other practical or emotional support. The Central and Eastern report highlights that inequality is rooted in their specific historical and cultural contexts and varies significantly between rural-city connections.

Networks play a crucial role in connecting women entrepreneurs with stakeholders and spreading awareness about their projects. Engaging in networks enables the women to access resources, knowledge, and trust-building, helping them to overcome gender and cultural conventions. Local community networks are highlighted both in the Baltic and in the Mediterranean region. These networks help foster a sense of community and support the provision of local services to advance their projects.

Some women innovators have developed innovative technological solutions tailored to their specific contexts. For them technology plays a crucial role in their innovations. On the other hand, some women, especially in the Baltic and Central and Eastern regions prefer to rely on low-tech solutions. However, all women innovators use technology in their innovations as most women have well-designed websites and social media pages for marketing and expanding networks, targeting both local and international audiences. In the Baltic and Mediterranean regions, some found the work on digital platforms easy, while others struggled with the necessary digital skills.

As such, issues around quality broadband are discussed in all macroregional reports. In the Atlantic and Mediterranean regions many of these innovations occur in remote rural areas, highlighting the importance of quality broadband.

All women innovators make environmental considerations in their projects, though their approaches vary. Even when their primary focus is not environmental sustainability, women innovators in all regions still incorporate environmental considerations into their projects. The women share a dedication to implementing environmentally sustainable practices in their innovations and encourage ecological awareness within their communities.

3.3 MAINSTREAMING ACTIONS

The Atlantic and Central and Eastern macro-regions are reporting changes in policy, culture and the economy because of women-led innovations in rural areas. For the Baltic and Mediterranean regions there are promising examples and initiatives for changes in laws, policies, and institutions. However, changes, such as attitudes toward women entrepreneurs, on an informal, local, everyday level are evident.

Scaling out as a wish for the initiatives to go nation-wide are seen in all the regions, but not in all innovations. While these women-led innovations often are context-specific and not initially aimed at scaling out we can see that they created new markets nationally and internationally. Replication of the innovation by other actors was not seen in the Atlantic or Mediterranean macro-region but was visible in the Baltic region where many consciously encouraged others to imitate their business model. They wanted to spread



their business model to other places. In the Central and Eastern region this kind of replication happens through networks, regardless of the field of the women networking.

Most women have received some kind of support (either financial, technical or help to improve their skills and knowledge) through different initiatives. In the Atlantic region, local networks and resources are prioritised above regional and national public programs, while in the Mediterranean area the financial support was provided by public authorities on different levels or in some cases by private foundations. The Baltic report highlights that business support systems tend to favour organizations with economic growth potential, while social, cultural, and environmental innovations often miss out on these more lucrative supports. Also, the Central and Eastern report brings up the issue of a lack of funding for small-scale and socially oriented initiatives perhaps not interested to grow financially.

There is a considerable gap when it comes to knowledge around AKIS, and in the Baltic area none of the interviewees was aware of AKIS. All regions have organisational capacities in place to support innovation. The Atlantic area report challenges related to a limited access to advisory services, bureaucratic issues and a lack of tailored support. For the Mediterranean region the women face challenges such as insufficient support for rural areas, inadequate training programs, complex bureaucracy, limited institutional support, and lack of financial guidance.

Women innovators are significantly influencing social norms and promoting inclusivity through their visible and impactful innovations. This is especially seen for women in male-dominated areas where the women gained respect after proving themselves and became role models, thus challenging gender stereotypes locally. On a regional level we see the Baltics highlight how some women influenced industry norms and general business attitudes in rural areas, while the Atlantic report highlights how women educate communities and participate in regional consultation processes.

We also see this challenge of gender stereotypes on a national level where the Atlantic report highlights how the women advocate for policy changes and where in some countries in the Central and Eastern region women are active in this transformation. In the Mediterranean region the women-led innovations often gain national visibility and thus show younger generations the potential for women to lead sustainable and equitable rural projects.



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SECTION TWO

MACRO-REGIONAL REPORTS



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ATLANTIC MACROREGIONAL REPORT

COMPARATIVE ANALYSIS

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ACRONYMS & ABBREVIATIONS

EU	European Commission
CAP	Common Agricultural Policy
AKIS	Agricultural Knowledge Innovation Systems
CSA	Community Supported Agriculture



INTRODUCTION

This report presents the results of the comparative analysis of the national case studies conducted in Ireland, Netherlands and Germany.

A total of seventy female innovators were interviewed, of which forty in the agricultural sector and thirty in the rural sector. These women were selected by sustainability dimension, that is, whether their innovations primarily concerned environmental (EN), social (S), economic (EC), or cultural (C) sustainability, and by their location – remote rural (RR), rural village (RV) or rural location close to a city (RC).

Tables 1 and 2 provide an overview of the interviewed women and their projects. For detailed, country-level information, including method considerations, we refer the reader to Deliverable 3.3 “Women-led Innovations in Agriculture and Rural Areas, Lessons Learned Report and Fact Sheets on Female Innovations” (Sivini et al 2024).

Table 1. Rural Based Innovations in Ireland

Type of innovation	Sustainability	Location	Age	Education *	Legal form **	Established in	Employees including owner, or people engaged
Oyster coastal farming experience and café.	EC	RC	40s	Tertiary	Company	2018	5 employees 6 + cafe staff 10 Oyster Farmers
Household pellet heat producers.	EN	RV	60s	Secondary	Sole Trader	2005	6 possible but unsure.
Women in agricultural enterprise project.	EN	RC	40s	Tertiary	N/A	2018	10 leading female professionals not employed but feeding into project.
Rural Recruitment company for people working from home.	S	RV	40s	Secondary	Social Enterprise	2019	1 Full-time worker plus 30 people engaged in being positioned in work.
Cyber information and well-being educational company	S	RV	40	Tertiary	Company	2020	One Director



Type of innovation	Sustainability	Location	Age	Education *	Legal form **	Established in	Employees including owner, or people engaged
Home Services for elderly in rural areas.	S	RC	70s	Secondary	Social Enterprise	1999	A team of over 300 experienced and compassionate caregivers
Cormac Tagging	EC	RC	40s	Tertiary	Company	2013	36 employees
Craft company	EC	RC	40s	Tertiary	Company	2020	1 Full-time, and 2 part-time
Wicker basket making craft company.	C	RR	50s	Tertiary	Company	2020	1 Full-time
Agricultural safety company for children.	S	RV	30s	Tertiary	Company	2015	1 full-time 1 part-time

Table 2: Rural Based Innovations in Netherlands

Type of innovation	Sustainability	Location	Age	Education *	Legal form **	Established in	Employees including owner, or people engaged
Eco-village with tiny houses for climate action	EN	RV	64	Tertiary	Cooperative	The group was formed in 2018. The cooperative was legally established in 2019.	30+ including cooperative members and supporters.
Arboretum with rare species	EN	RR	70+	Tertiary	Association	Project, planned for 2014, developed from 2018, planted between 2022-2023, and opened in 2024.	6 association board members. Hundreds of tree-donators.



Type of innovation	Sustainability	Location	Age	Education *	Legal form **	Established in	Employees including owner, or people engaged
Making the built environment bee-thriving for biodiversity	EN	RC	50+	Tertiary	Foundation	In 2015, the foundation was established. Her current initiative started in 2012.	7 for operation. 5 for foundation board.
CSA-farm as a regional innovation hub for food coop	S	RR	54	Tertiary	General partnership (VoF)	Started in 2013. Partnership formed in 2016.	2 farmer-owners. With tens of volunteer workers.
Integrative playgrounds with food forests	S	RC	56 and 60+	Tertiary	General partnership (VoF)	2018	3 co-owners.
CSA-farm based on self-harvest subscription.	S	RV	60+	Tertiary	Sole proprietorship	Started in 2020.	1 farmer-owner. Hundreds of subscribers.
Bio-degradable lampshades	EC	RR	49-50	Tertiary	Sole proprietorship	Products since 2021.	1
Fairer seasonal work arrangements for urbanites and organic farms.	EC	RC	38 and 55+	Tertiary	Foundation	Foundation was legally formed in 2021. The project started in 2020.	5+ board members and hundreds of participants
Multifunctional, organic pig farm for direct sales, eco-tourism and food education	EC	RV	40	Tertiary	General partnership (VoF in Dutch)	2016	2 co-owners. (ca. 17 ha)
ArtFarm providing spaces for creative arts in an old barn	C	RV	70+	Tertiary	Foundation	2007	5 foundation board members. 20+ artists active.

Table 3: Rural Based Innovations in Germany

Type of innovation	Sustainability	Location	Age	Education *	Legal form **	Established in	Employees including owner, or people engaged
Farm production and direct marketing of self-made products	EN	RR	50 - 60	Vocational	Sole proprietorship	2013	3 possible but unsure



Type of innovation	Sustainability	Location	Age	Education *	Legal form **	Established in	Employees including owner, or people engaged
Seed multiplier for the preservation of biodiversity	EN	RC	60-70	Tertiary	Registered association	1994	7 employees (interviewee, accountant, local coordinator, gardener, quality salesperson, mortifier, network coordinator) plus 700 association members
Rooms and vacation apartments on the farm with direct marketing of food from own production	EN	RV	60-70	Vocational	Sole proprietorship	2003	3
Community Based Agriculture (CSA)	S	RR	50-60	Tertiary	Registered association	2014	30 (20 families and 10 sponsoring members)
Carpenter business combined with political activism for maternal leave support	S	RC	30-40	Vocational	Registered association	2022	1
Mobile Women Advisory Service for women affected by violence and their children	S	RV	30-40	Tertiary	Registered association	2021	6 (two councilors plus 4 employees)
Employee of a Federal Ministry giving insight into an innovative Funding Instrument	EC	RR	40-50	Tertiary	Governmental	2006	The ministry responsible has 500 employees
Mobile product finishing for confectionery food items	EC	RC	30-40	Vocational	Sole proprietorship	2021	1
Low-stress stockmanship training	EC	RV	30-40	Tertiary	Sole proprietorship	2012	1



Type of innovation	Sustainability	Location	Age	Education *	Legal form **	Established in	Employees including owner, or people engaged
DLV action alliance "Women in the community"	C	NA	40-50	Tertiary	Registered association	2022	5 (3 at project sponsor organization and 2 at association)

Table 4: Farm-Based Innovations in Ireland (A)

Type of innovation	Sustainability	Location	Age	Education *	Size of farm (ha)	Property rights	Legal form **	Established in	Employees including owner, or people engaged
Food producing company	EC	RC	56			Owner	Company	1989	3 Family members + 3 full-time
Wool production and social farming	EN	RV	52		40	Owner	Family Farm	2016	Farmer-owned and run cooperative
Equine Learning Centre for special needs and mental health issues.	S	RC	26		1	Rented	Family Farm	2021	1 full-time 1 part-time
Farm producing and café business	EC	RV	50		16	Owner	Family Farm	2012	1 farm, 2 shops? 10 full-time
Agricultural internet Influencers	S	RV	26		30	Owners	Family Farm	2018	2 plus father farming
Cookery educational school	EN	RV	48		2	Owners	Family Farm	2018	2 Wife and husband
Organic farmer and food producer.	EN	RV	38		29	Rented	Family Farm	2009	1 full-time and father on part time for farm tourism.
Food producer	EC	RV	70		2.5	Owner	Family Farm	1985	32 employees
Farm tourism experience and food producer.	EC	RC	42		1	Owner	Family Farm	2018	1 full time
Lavender production farm	EC	RV	55		33	Owner	Family Farm	2014	2 full-time and seasonal workers but no data.



Table 5: Farm-Based Innovations in Ireland (B)

Type of innovation	Sustainability	Location	Age	Education *	Size of farm (ha)	Property rights	Legal form **	Established in	Employees including owner, or people engaged
Beetroot food producer.	EC	RR	44	Tertiary	40	Renting	Company	2019	1 Full-Time 2 Part-Time and outsourced to a producer to create product.
Farm tourism	EN	RR	42	Tertiary	202	Owner	Family Farm	2019	1 Full-Time 1 Part-Time
Organics and food producer.	EN	RR	55	Tertiary	26	Owner	Family Farm	2011	2 Full-Time
Agricultural clothes maker	EN	RR	39	Secondary	20	Owner	Family Farm	2022	1 Full-Time
Farm tourism and education centre	C	RR	56	Tertiary	10.1	Owner	Family Farm	2012	2 Full-Time
Food producer	EC	RR	48	Tertiary	42	Company	Family Farm	2010	4/5
Farm accommodation and tourism	S	RR	50	Tertiary	10	Owner	Family Farm	2021	2 Full-Time
Crafts maker	C	RR	51	Tertiary	NA	Owner	Family Farm	2016	1 Full-Time
Wool educational programme	S	RR	42	Tertiary	NA	Owner	Company	2022	1 Full-Time
Food tourism enterprise	EC	RR	63	Tertiary	1	Owner	Company	2022	1 Full-Time



Table 6: Farm-Based Innovations in Netherlands

Type of innovation	Sustainability	Location	Age	Education *	Legal form **	Established in	Employees including owner, or people engaged
Regenerative cow-farming with excellent business performance	EN	RR	32	Tertiary	Professional partnership (maatschap, common for farms in NL)	Since 2010, she started working on farm. Taking over the farm was in 2012.	2 (ca. 47 ha)
Arable farming, both conventional and organic, with soil and water pollution preventive measures	EN	RC	46	Tertiary	General partnership (Vennotschap onder Frima; VoF in Dutch)	Since 2015, she has taken over the farm from her father. (The farm establishment goes back farther.)	1 (ca. 90 ha)
Integrative education centre for Biodynamic farming, working with an official degree-awarding school	EN	RV	45	Secondary	Foundation (non-profit. Stichting in Dutch)	Since 2020, she is serving as director. The foundation was established in 1947.	15 (ca. 85 ha with 110 student housing units). ca. 280 students, fulltime and parttime. Thousands of alumni and supporters
Local food production and consumption cooperative movement	S	RR	48	Tertiary	Cooperative. (coöperatie in Dutch)	In 2023. (The national foundation for local food cooperatives started in 2013.)	Ca. 160 cooperative member-households. 2 employed professional farmers.
CSA-farm based on harvest membership and agro-ecology	S	RC	32-35	Tertiary	Professional partnership (maatschap in Dutch)	In 2024, two women acquired the farm. The farm established in 2017.	2 owners. With 5-10 weekly volunteers. 100+ members of harvest subscription. Ca. 6 ha.
Organic farm with day care for people with mental health problems. Land is leased by a land trust foundation.	S	RV	59	Tertiary	General partnership (VoF in Dutch)	In 2023, she and her husband acquired the farm. The farm started in 1981, and the care in 2001.	9. With 10+ volunteers. Ca. 2.5 ha.



Type of innovation	Sustainability	Location	Age	Education *	Legal form **	Established in	Employees including owner, or people engaged
Organic farm with direct sale online-shop and home delivery	EC	RR	61+	Tertiary	General partnership (VoF in Dutch)	In 2005, a web shop started. The transition to organic farming was in 1999. The farm's establishment goes back to the previous generation.	10+ for direct sales. 2+ with seasonal workers for arable farming. (Ca. 146 ha for arable farming. Ca. 500m2 for shop logistics.)
Multi-functional animal farm with dairy products	EC	RC	31+	Tertiary	Limited partnership (Commanditaire Vennootschap in Dutch)	Established in 1948. The intergenerational transfer was in 1982. Now in the process of transfer.	30+ including shopkeepers and interns. (ca. 6+ ha)
CSA-farm based on weekly delivery subscription	EC	RV	47+	Tertiary	General partnership (VoF in Dutch)	In 2006	3 female farmer-owners and volunteers (3.5 ha)
Potato-Arts Festival	C	RR	38 and 64+	Tertiary	Foundation (stitching in Dutch)	Established in 2006. The first edition was in 2008.	10 board members and volunteers

Table 7: Farm-Based Innovations in Germany

Type of innovation	Sustainability	Location	Age	Education *	Size of farm (ha)	Property rights	Legal form **	Established in	Employees including owner, or people engaged
Animal husbandry, cropping & dm with focus on biodiversity and animal welfare; awareness raising	EN	RR	43	Tertiary			Sole Proprietorship	Took over the farm in 2016	3 (in addition husband helps out in his free time)
Pioneers of queer farming, sheep farm w/ low intensity grazing, focus on biodiversity, awareness raising on this type of farming	EN	RC	45	Tertiary			Civil Law Company (GbR)	2012	3 (the managing couple plus summertime employee)



Type of innovation	Sustainability	Location	Age	Education *	Size of farm (ha)	Property rights	Legal form **	Established in	Employees including owner, or people engaged
Farm diversification w/ cheese production, provision of community meeting place and farm education	S	RR	45	Vocational			Sole Proprietorship	Year? Farm inherited the farm from father	5 (interviewee, husband, son; plus two part-time employees)
Initiator of marketing initiative for cow-calf dairy system, now advisor on this system	S	RC	46	Vocational			NA	2019	1
Agri-influencer, awareness raising on farm life	S	RV	26	Tertiary			NA	Since summer 2021	1
Organic farming pioneer on a former large, collectivized farm in former socialist Germany	EC	RR	57	Vocational			Ltd	1993 (reunification)	45
Marketing of kid meat as a high-quality byproduct of cheese production, awareness raising on link meat and dairy products	EC	RC	42	Tertiary			Civil Law Company (GbR)	2010	2 (with husband)
Cultivation and processing of sweet lupine	EC	RV	41	Vocational			Sole Proprietorship	Since 1872 family farm, since 2014 she took over	4
Combining farming and applied research, focus on animal welfare, cow-bound calf rearing, specifically involving urban society	C	NA	52	Tertiary			Construction of Foundation and Shareholder corporation	2006	3

1.THE MACROREGIONAL CONTEXT

This macroregional report is based on the national findings from three countries, namely, Ireland, Netherlands and Germany. All three countries value their rural regions



considerably with agriculture and rural innovation being as important as cultural and social values.

Ireland would contain the lowest population of the three countries with approximately 5 million and around 30% of its population living in rural areas. The Netherlands on the other hand have a population of 17 million with 25% living in rural regions. Germany has by far the largest population of approximately 83 million, with about 18% living in rural areas.

Ireland, the Netherlands, and Germany each have distinct rural demographics that shape their social and economic landscapes. In Ireland, approximately 30% of the population lives in rural areas, but these regions, especially in the West and along the border, face challenges of aging populations and depopulation, as younger people often migrate to urban centers for education and employment opportunities. The Netherlands, with 25% of its population in rural areas, has relatively dense rural populations and a younger demographic. Many rural residents are integrated into urban economies, with small towns offering a mix of agricultural and urban lifestyles. Germany, the most heavily populated of the three, has about 18% of its population living in rural areas. The rural population varies significantly, with some regions, particularly in the East, facing aging populations, while others, like parts of Bavaria, maintain vibrant, younger communities. These demographic differences, ranging from Ireland's rural depopulation to the Netherlands' youthful, integrated rural areas, affect each country's approach to rural development and sustainability.

Adapting to sustainability concerns, managing economic constraints, and tackling rural depopulation are recurring topics in farming and enterprise in Germany, the Netherlands, and Ireland. With climate change and environmental regulations influencing agricultural policies, farmers in all three nations are facing mounting pressure to implement environmentally sound techniques. Nonetheless, their methods differ significantly. Thanks to a robust agricultural industry and close connections between the rural and urban economies, the Netherlands has embraced high-tech, intensive farming practices and agribusiness innovation. Germany, on the other hand, has a more varied agricultural terrain, and smaller family farms, particularly in the former East Germany, frequently struggle to make the switch to more sustainable models. While Ireland is similarly committed to sustainability, it has difficulties due to an ageing farming population and rural depopulation, which have an impact on both farm labour and enterprise. Nonetheless, rural entrepreneurship is gaining popularity in all three nations, and women-led businesses are expanding, albeit with differing degrees of regional support and acknowledgement.

In the three countries of the Atlantic region, women innovators in farming and rural entrepreneurship confront a number of similar obstacles, such as gender inequity, restricted access to resources, and difficulties juggling the demands of their businesses with their family obligations. Traditional gender stereotypes frequently prevent women from achieving leadership roles and prominence in the farming industry in all three nations; instead, many women labour in lower-profile or behind-the-scenes roles on



family farms. Financial obstacles are also important since, in contrast to males, women frequently have difficulty obtaining loans, grants, or investments, particularly in industries like agriculture where funding is typically allocated to male-led enterprises. Furthermore, women are disproportionately responsible for providing care, which hinders their ability to seek business expansion or entrepreneurial prospects. These issues are made worse in rural locations by restricted access to social services, daycare, and work-life balance regulations. In spite of these difficulties, women in these nations are coming up with creative solutions, frequently by expanding access to digital resources, creating community support networks, and looking for new avenues for recognition and prominence in their fields. To completely overcome gender gaps and allow more women to succeed in rural farming and entrepreneurship, however, more significant institutional changes are required (Bock, 2004; De Rosa et al. 2020; Ní Fhlatharta).

2. INNOVATION PATHWAYS

2.1 MOTIVATORS FOR INNOVATION

This section reflects the motivations of women in the Atlantic region to initiate innovations on both farms and in rural areas. Section 2.1 will focus on innovations led by women within a rural context.

2.1.1 RURAL INNOVATORS/RURAL INNOVATION

Environmental Sustainability

Environmental sustainability acts as a primary driver for women innovators in rural regions of Germany, the Netherlands, and Ireland, although their methods and focus differ slightly. In Germany, for example, rural women innovators are motivated by a strong sense of idealism regarding the environment, biodiversity, and climate change, particularly stressing the progression of alternative farming methods that support ecological objectives. Their key aim is to promote a comprehensive awareness of the climate emergency and support sustainable farming practices and alternative eating habits. Likewise, in the Netherlands, at least four of the rural innovators identified environmental sustainability as their primary motivation. They demonstrated a comprehensive understanding of the climate crisis and a dedication to disseminating a sense of urgency and alternative lifestyles or food-consumption patterns to a broader audience, including villagers, citizens, and local authorities. In Ireland, environmental sustainability serves as a key incentive, especially for individuals engaged in agriculture and rural tourism. Irish innovators concentrate on sustainable agriculture, resource conservation, and community-oriented environmental initiatives on a small scale. Some women combine eco-tourism, sustainable farming, and renewable energy options, seeking to tackle environmental issues while also enhancing local economies. In all three countries, rural women are dedicated to developing sustainable, community-focused solutions that promote enduring environmental and economic resilience.



Social Sustainability

Though the emphasis and methods differ, **social sustainability** is a major motivator for women innovators in rural Germany, the Netherlands, and Ireland. In Germany, social justice, women's rights, and community development are some of the driving forces behind social sustainability. One innovator, for example, was highly motivated by social justice concerns and women's rights and by a lack of support around maternity leave. In addition to tackling cultural disparities like the lack of artistic and creative opportunities in rural communities, many German innovators concentrate on promoting social solidity by giving underprivileged populations, like refugees, access to nature-based projects like food forests and playgrounds. With an emphasis on social inclusion and community integration, especially for marginalised groups, social sustainability is a powerful motivator in the Netherlands as well. Through cultural and economic efforts, Dutch innovators establish spaces that empower women and migrants, promote mental health, and encourage unity. For instance, one trailblazer established a secure area where underprivileged groups could interact with art and environment. Social sustainability in Ireland has a strong emphasis on bridging gender equality, and community needs, with a special emphasis on empowering women. For example, one rural innovator selected to focus on social sustainability and located in a rural village is very clear that financial aspirations were not at the core of their motivations. Rather at the core was taking a chance on an ambition to address social needs in rural areas. Nevertheless, regardless of the sustainability dimension the rural innovator was selected to focus on, developing innovations that met community needs did have the spin-off and important individual, personal, lifestyle and livelihood benefit of rural employment.

Economic Sustainability

Though each Atlantic country places a distinct emphasis on it, **economic sustainability** is a major motivator for women entrepreneurs in rural Germany, the Netherlands, and Ireland. In **Germany**, entrepreneurs are looking for ways to combine economic success with more general social and ecological objectives, so economic sustainability frequently takes a backseat to environmental and social sustainability. In order to solve market-based sustainability, many German women entrepreneurs concentrate on developing sustainable livelihoods. Examples of this include implementing alternative economic models, such as lowering the use of plastic or changing the seasonal labour market or selling eco-friendly products online. Economic sustainability in the **Netherlands** is strongly linked to market-driven innovation and regional development, with a particular focus on social entrepreneurship. In addition to prioritising economic diversification by adding value through sustainable products, women in the Netherlands often concentrate on expanding their business beyond the local context, particularly in sustainable agriculture and renewable energy. **Within the Irish context**, economic motivations did not appear as a primary driver, even in cases where they were selected to focus on economic sustainability. In the case of social enterprises, financial gain appeared especially not as a primary driver. All three nations states economic sustainability, however Ireland places more of an emphasis on community-based businesses and local



empowerment, with a greater emphasis on social effect, while Germany and the Netherlands place more emphasis on scalability and market-driven models.

Personal Motivation and Life-Stage

In Germany, we see across sustainability dimensions and rural typologies that the motivation to innovate in a rural context stem from a strong habit of self-reliance associated with rural life, a **sense of idealism and positive feedback** functioning as reinforcement along the innovation pathway. In the Netherlands, the motivations for innovating among women were often complex and multifaceted, rather than being driven by a single factor. Their innovative actions were frequently the result of personal experiences and reflections on their career journeys, including a review of their past professional experiences, an examination of their personal competencies, and a deep questioning of the meaning of happiness and the purpose of their lives. For many, the desire to create something they could be proud of and leave a **lasting legacy** for future generations was a significant personal motivation. In Ireland, rather than sustainability dimensions having influence, the **life-stage also appeared important** to possessing the confidence to initiate a rural innovation. Interviewee ages ranged from mid 30s to over 50s. Some interviewees commented that at this stage in their lives they had gained the confidence to take a chance on fulfilling their ambition to develop a rural innovation.

2.1.2 FARMING INNOVATORS/FARMING INNOVATION

Women in farming in all **three Atlantic countries** are **motivated by a combination of social, economic, and environmental sustainability factors**. In Germany, there is a strong sense of idealism regarding sustainable agriculture, and environmental awareness and the continuation of family farming traditions are frequently highlighted. Environmental and social sustainability are combined in the Netherlands, where many entrepreneurs prioritise community development and regenerative farming methods while also pursuing economic stability through diversification. With a deep connection to the land and a desire to establish socially conscious enterprises, especially in the production of organic food, the focus in Ireland is on maintaining farming traditions and meeting the needs of the local population.

- **In Germany**, newcomers to farming, particularly in areas close to the city, are motivated by a new passion for farming. One innovator found that coming from outside the agricultural sector was a source of inspiration, allowing her to engage in farming or an on-farm innovation without being limited by traditional constraints or perceived notions. Additionally, in a remote rural areas as well rural villages, a key driver is the desire to preserve and continue family farm legacy, especially to secure the long-term viability of the farm. Many innovative women in Germany and within an Irish context as well, alluded to be motivated by a need to raise awareness of food production and associated value chains. One innovator says consumers should know that cheese production goes hand in hand with meat production.
- **In the Netherlands**, environmental sustainability is a significant driver for rural women innovators, although it is often secondary to broader social motivations. Many



innovators, especially those in remote rural areas or rural villages, are deeply concerned about the need for regenerative agriculture, reducing harmful chemicals, and cutting emissions, driven by an informed sense of urgency built through research and critical thinking. Social sustainability is equally influential, with several innovators engaging in multifunctional organic farming and opening their farms to community-building activities, such as hosting volunteer programmes, social events, or community kitchens. At least four of the ten interviewees could be described as activist farmers, who are not afraid to speak publicly or network with other social and environmental organisations at many levels. They have an understanding that their farm innovation has a strong social movement character. This motivation is found regardless of typology or area. Economic sustainability remains an important factor for many, especially for those innovating in more commercially oriented contexts. Innovators focus on diversifying income streams through direct sales, membership models, or optimising production schedules, ensuring their farms are financially stable while supporting both social and environmental causes. In the case of cultural innovation, economic motivations played a key role, as the innovator understood that cultural engagement with the broader community and hosting cultural events could be effective ways to brand the region's agribusiness roots nationally and internationally. This was particularly true in the context of remote rural areas.

- **Women farming in Ireland** are predominantly motivated by social, environmental and cultural sustainability rather than economic objectives. For most innovators, it is important to improve the economic viability of farms, although it is not the most important driver or motivator. Part of the motivation is preserving farming traditions for future generations, but also the bond to the land and local culture. Most of the innovators in rural villages or surrounding areas to cities are very driven by a narrative of community need, either creating jobs or ensuring that the village is empowered through entrepreneurship and sustainable economic independence. Many innovations focus on growing food in a local and/or organic manner, addressing food security and home culture. These innovations are often interlaced with social sustainability, as farm-based social enterprises and other community projects come to life (e.g., making traditional crafts or empowering other women in the neighbourhood to diversify their farms). For innovators in remote rural areas, the distinct context of being in a more isolated setting itself serves as a unique motivator, shaping innovations that support local economies and providing new opportunities for both the farm and the surrounding community.

2.2 CONSTRAINS AND FAVOURABLE CONDITIONS

2.2.1 RURAL INNOVATORS/RURAL INNOVATION (CONSTRAINTS)

In all areas of sustainability and within all rural typological area, women innovators faced challenges and constraints. Geographic locations of the rural village or remote rural areas further exacerbates the challenges faced by the women innovators.



German Constraints: Across different sustainability dimensions, funding and bureaucratic hurdles are common challenges faced by German women innovators. Two innovators in environmental sustainability, one in an area close to a city, the other in a rural village, faced difficulties hiring skilled personnel, while a different rural innovator contended with gender bias in dealing with her local bank and her local politicians. Key areas of constraint were:

- Rural innovators faced challenges in hiring staff (Environmental and Rural Village).
- Gender discrimination in dealing with banks and accessing loans
- A lack of political support and goodwill (Social Sustainability)
- Women in all areas experienced a lack of funds to keep (Economic Sustainability)

Netherlands Constraints: Most if not all women face challenges and within all areas of sustainability. In particular, the following are key:

- Access to land is challenging with short-term leases, difficult to negotiate (Environmental Sustainability).
- Securing local premises such as villages halls or community spaces for business is difficult (Social Sustainability).
- Accessing funds public or private is challenging and can prevent growth and expansion
- In remote rural areas, GMO endorsing EU Legislation and slow government action on biological farming can threaten organic farming (Economic Sustainability).
- Gender stereotyping and prejudice initially underestimated the seriousness of their innovative women's efforts.
- A lack of awareness around healthy food and busy lifestyles of villagers.
- Intellectual property protection and outsourced contracting were issues for innovators, especially in remote rural areas.
- Stringent planning laws in rural areas restrict farm diversification opportunities.

Ireland's Constraints: Similar to both Germany and the Netherlands, rural innovative women in Ireland also face constraints including the following:

- Access to finance was a key issue for many farm women, although those with prior connections often had more influence. Negative preconceptions of banks also deterred many from approaching banks for loans.
- Work-life balance was a key constraint with many women finding it difficult to balance work and family commitments. This issue often stretches women's time and energy.
- Many Irish women experienced 'imposter syndrome' and a lack of confidence in their abilities, although this did improve as women gained experience. Their confidence in core business skills is good, but they feel less skilled in the areas of taxation, marketing, and obtaining support.
- Infrastructural constraints were issues for many women, including poor broadband and mobile phone services, particularly for online marketing and communications.
- Financial supports were also a constraint for many women, not just start up finance but also finance to expand their enterprise.



2.2.1.1 RURAL INNOVATIONS/RURAL INNOVATORS (FAVOURABLE CONDITIONS)

All innovative women in the three countries experience favourable conditions in all areas of sustainability and within each typographical area. In all three countries, the availability of **strong networks, family support, family farmland, local support from community, respect for work ideas** and **work ethic** were all favourable conditions, which enhanced the experience of the women innovators. Therefore, the role of the family and personal support, networking and mentorship and access to resources and financial support were key favourable conditions in the Atlantic region.

In the case of **Germany**, women experienced the following favourable conditions:

- Women innovators relied on their networks to launch initiatives, this also assisted when accessing political support and finance
- Family support was evident to most if not all innovators and in all areas.
- Some political assistance was available to some innovators, particularly in remote rural areas.

In the **Netherlands**, again favourable conditions were evident across all areas of sustainability and in all locations:

- A regional agenda for circular economy and housing supported by politicians facilitated a smooth process for land acquisition and planning.
- In remote rural areas, the innovator's leadership quality and organisational capacity, along with the availability of strong village board members, were key.
- The availability of family and friends support, land and premises were very favourable.
- In areas close to the city, the availability of the family estate, traditions and intellectual property around skills and experience was hugely important.
- Local media coverage and the availability of affordable land for biological farming also contributed favorably.
- Access to startup funding, angel funds, and knowledge institutes that provided material processing machines and tools, along with support regional innovation hubs (Area close to the city and Remote rural).
- Personal strength and motivation.

In Ireland, similar favourable conditions were evident:

- Support from family and friends, with partner/husband being particular important.
- Networking and mentoring were key to building entrepreneurial skills as well as giving emotional support. In particular, business groups were helpful but having community-based networks was also significant, though lack of time often restricts participation.
- Rural women innovators adapted to the financial constraints by utilizing personal resources of home office/ savings in their business. Their resourcefulness aided in navigating financial difficulties, but depending on the type of business this was not a sustainable route long-term.



2.2.2 FARMING INNOVATORS/FARMING INNOVATION (CONSTRAINTS)

Across all three countries in the Atlantic regions farm women faced bureaucratic obstacles, related to **access to funds** and **overcoming legal requirements**, alongside **community resistance** to new forms of farming. **Funding constraints and access to land** were also identified by many women in all rural areas. In some case across all three countries, family resistance also added additional pressures to women farm innovators.

In Germany the following were key constraints for farm women innovators:

- Women driving environmental innovations were hampered by bureaucratic issues, particularly in remote areas, especially with legal and administrative requirements for direct marketing or herding activities.
- Social sustainability was impacted by land leasing issues that were prominent, especially fixed term leases or sudden termination of agreements.
- Family and community resistance to women engaged in agricultural studies.
- Limited local support, particularly insufficient labour, lack of volunteer support, lack of support for organic farming.
- Difficulty in accessing relevant training or advice for novelty farming ideas.

In the Netherlands the following constraints were evident:

- In remote rural areas, negative perceptions around sustainable farming from local industries hindered an acceptance of environmental ideas led by women.
- Family members not appreciating or understanding the women innovation, particularly nearer to cities.
- Lack of funds hindering start-up ideas on farms or advancement of ideas, particularly in rural villages.
- In remote rural areas, communication barriers and a lack of effective channels hinder social innovation, while near cities, possible crowdfunding and external donation ideas help address funding challenges, though these remain significant obstacles.
- In rural villages, the lack of land security due to short-term leases further limits the ability to sustain social and environmental projects.
- From an economic perspective, managing personnel and retaining staff is difficult particularly in remote rural areas and also due to fluctuating incomes and labour laws.

In Ireland, some similar areas were identified but also some additional:

- Uncertainty around farm succession is a huge constraint to business startup and expansion
- Similar to the Netherlands, issues around locals and family members underestimating the seriousness of the farm diversification efforts.
- Combining family responsibilities with entrepreneurship and balancing work-life commitments.
- Women labelled as 'hobby farmers' undermines their credibility.
- The overall economic viability of on-farm innovations can be a considerable constraint.



2.2.2.1 FARM INNOVATIONS/FARM INNOVATORS (FAVOURABLE CONDITIONS)

Within all three countries, there were a set of common favourable conditions for women-led innovations, which included, local and family support and education and digital resources.

In all three countries women share a strong commitment to **environmental sustainability**, with the availability of strong traditional knowledge and modern practices being an advantage. In the Netherlands, innovators successfully make the shift to regenerative farming through online courses and expert consultations, while in Germany, women in rural areas use scientific expertise, such as employing donkeys for landscape management. With the help of outside resources like internet forums and neighbourhood partnerships, Irish women in rural areas also prioritise sustainable farming methods, exhibiting a national dedication to ecologically responsible farming.

Another important issue in all three countries is **social sustainability**, as networks of support are crucial for female innovators. While local cooperatives and close regional links support innovation in the Netherlands, women in Germany gain from **professional networks** such as dairy farmers and political campaigning. Similar to this, family and community networks are essential for success in Ireland, where a supportive atmosphere is fostered by local volunteers and a passion for biological food. These networks facilitate information sharing, risk mitigation, and project visibility for innovators.

In Germany, the Netherlands, and Ireland, **family engagement and community support** are key components of economic sustainability. In the Netherlands, family farms and local networks serve as the cornerstone for economic success, whereas in Germany, women innovators have the advantages of **long-standing labour laws and robust regional support**. In Ireland, the success of women-led agricultural enterprises is facilitated by a **combination of financial resources, outside mentoring, and family support**. These economic underpinnings are further reinforced in all three nations by improved **digital connectivity and superior educational resources**, which facilitate women's innovation and success on farms.

The individual unit of the family as a social support, as well as a source of resources and knowledge was also very clear across the sustainability dimensions, particularly in Ireland. For example, partners (often male) or fathers provided direct input into developing the innovation or were a source of wider support. This perhaps shows the importance of the family unit as a supportive context for women-led farm innovation.

Attachment to place also emerged as a favourable condition, particularly in Ireland, where it created emotional embeddedness and commitment towards the farm, wider rural area and developing their innovation in that place across the typologies. This shows how the cultural practice of farming creates place attachment that supports keeping people in rural areas. This observation might be assumed to connect more strongly with farm innovators focused on social, environmental or cultural sustainability, but was also



observed in economic cases. This also can be linked to creating a certain type of character and aptitude. For example, in some of the remote rural interviews, a rural and farming upbringing was linked to creating a personal character underpinned by resilience and determination, which also provided a favourable condition.

2.3 IDEA AND PREPARATIONS/DECISIONS AND PREPARATORY ACTIVITIES

2.3.1 RURAL INNOVATIONS/RURAL INNOVATION

The first steps to transform the innovation ideas from women in rural areas into reality were diverse in all three countries with a number of examples provided. There were no strong patterns based on sustainability dimensions and innovators had different starting journeys. Across all areas and in the three countries we experience rural women starting their innovations by building the required expertise and knowledge step by step.

- **In Germany** for instance, an environmental innovator active in a remote rural area first invested in technology and activated her network to launch her initiative, while two other innovators began by securing funds to build their expertise. The social innovator, close to the city and balancing maternity leave reduced her working hours and used advisory services to start her initiative. Another social innovator, active in a remote rural area, started a self-sufficient garden, with help from her neighbours, although self-proclaiming herself to be naive and without any experience. The economic innovator, again in a remote rural area, started a programme to empower rural women economically by mobilising all relevant regional and EU funds.
- **In the Netherlands**, one innovator made a personal decision to champion sustainability by pursuing a project that **integrates both environmental and social issues**. As a village council member, the innovator fully committed to organising the effort, drafting a grant proposal, and **applying for LEADER funding**. She began by conducting workshops on bee ecology and beekeeping, eventually turning this into her full-time occupation. In order to address the climate problem, important actions included moving families to farming areas, starting social companies, making personal investments in projects, and connecting with like-minded people to garner support. Writing proposals, testing materials, and finding possible partners, like farms for creative labour practices, with effective communication and pitching to showcase ideas were the main goals of early initiatives for one innovator. Making creative initiatives a reality in remote villages required creating a financially viable transition strategy that ensured cultural sustainability in addition to economic and environmental objectives.
- **In Ireland**, key to supporting the innovation's first steps and further development was dedication, hard work, building networks and skills development rather than following a specific set of planned steps from a more traditional business plan. Across the



sustainability dimensions a pattern of gaining assistance from family was part of the first steps to transform the idea. After these initial steps, it appeared it was then that innovators looked towards the support available via various policies, such as for skills training, mentoring and accessing finance. Weaknesses in the support system were also identified in a small number of key areas – **skills training to build confidence/leadership skills** as well as access to finance and wider finance/business skills. In relation to particular sustainability dimensions, an awareness of the need for strong financial skills and business acumen was not linked just to innovators selected to focus on economic sustainability. For example, one interviewee classified as environmental pointed to the fact that financial acumen can be a weakness for women innovators and highlighted the need for training.

2.3.2 FARMING INNOVATORS/FARMING INNOVATION

Steps to transform innovations in farming span across all sustainable dimensions as women in farming access funds, land, supports and networks, irrespective of where they were geographically positioned or what sustainable dimension they were hoping to innovative in.

- **In Germany**, in all areas of sustainability women initiated their innovation by mobilizing financial resources (in the form of subsidies, loans or family gifts). **Capacity building and the establishment of networks** have been an important ongoing process. Within environmental sustainability projects, two innovative women stressed the value of raising funds with family members' assistance, such as spouses or close relatives, and progressively gaining experience over time. Similarly, a social innovator stressed the importance of gaining experience over time. Economic innovators concentrated on locating and employing workers or partners, with one individual learning how to inspire others to join the project. In order to support her family, the cultural innovator started her enterprise by obtaining a cowshed subsidy while still working as a veterinarian. She then gradually improved her initiative through trial and error.
- **In the Netherlands**, women focusing on **environmental innovations** applied regenerative practices but did so by trusting in their instincts and knowledge. They believed in staying open to new ideas and practices, starting small and building from there. Within rural villages women were strong believers in learning from successful farmers and not shying away from leadership roles. Initiating a social sustainability innovation in a remote Dutch area occurs as like-minded women collaborated amongst themselves and others with key knowledge. Economic projects were undertaken initially by creating solid communications plans, such as social media accounts and online newsletters. Some women in both economic and cultural projects identified funding sources from the outset which helped support their initiatives.
- **In Ireland**, women across the typologies and dimensions, core first steps were linked to gaining the economic resources (e.g. land, funding, infrastructure) needed, as well as developing any new physical infrastructure needed as part of the business. Women



developing their innovation on family farms tapped into utilising their existing farm or developed their innovation on a small portion of it while the rest of the farm continued as previously. Another key part of the first steps was to fill any knowledge and skills gaps that were needed to support business development. Some obtained skills in developing a business, while others relied on their own existing skills in this area. **Food manufacturers** took certain actions, such as **marketing and customer acquisition**; some made use of **pre-existing networks**, while others put in more effort to develop a clientele from the ground up. In the beginning, **mentoring** was frequently disregarded, but innovators believed it may have been beneficial in many aspects of sustainability. It took constant efforts to network, get important information, and build business relationships. While location was not a big obstacle, being close to a town or village was seen as beneficial. Location did not appear to be a huge barrier to networking, however being close to a town or village was seen as an advantage.

2.4 CONCRETISATION OF INNOVATIONS

2.4.1 RURAL INNOVATORS/RURAL INNOVATION

Innovations in rural contexts across Germany, the Netherlands, and Ireland display both similarities and unique approaches to sustainability. Common goals across all three countries were creating jobs and fostering community impact, although the approaches in each country varied.

- **In Germany** for instance, one social innovator active in a rural area close to a city, helps provide access to maternity leave for the self-employed. Another social innovator active in a rural village offers protection from gender-based and domestic violence and since the start of the initiative has advocated for nearly 1000 women. Across all sustainable dimensions the innovations in a rural context, the creation of **new jobs, more animal welfare, raising awareness and the enhancement of social interaction and political engagement** were evident. While environmental and economic sustainability are less prominent, social initiatives clearly enhance political and social interactions within communities.
- **In the Netherlands**, in contrast to Germany, a strong emphasis is placed on environmental sustainability projects like eco-villages, arboretums, and initiatives promoting bee-friendly environments. Community-supported agriculture and nature-based playgrounds that encourage inclusivity and participation are examples of social sustainability. In a remote rural area, the creation of biodegradable goods and balancing seasonal labour demand and supply are examples of economic advances. Farm barns are used to create creative spaces that promote cultural sustainability and are largely based in rural villages.
- Despite their diversity, **Ireland's** rural innovations led by women are mostly concentrated on **generating jobs and improving the community**. While social,



economic, and environmental results are intertwined, innovators' recognition of wider consequences across all dimensions makes the emphasis on social sustainability stand out. Rather than the sustainability dimension, the length of time doing business was a key factor influencing employment creation. Despite the primary focus of innovations on social results, social innovators also saw wider effects on the economy and environment. In every instance, there was a common goal to uphold and safeguard the environment, not only in projects with an environmental focus.

2.4.2 FARMING INNOVATORS/FARMING INNOVATION

Overall, the Netherlands adopts a more integrated strategy across all sustainability dimensions, Germany concentrates on media-driven social sustainability, while Ireland prioritises local economic growth and job creation, especially in remote rural areas. One key similarity across all three countries was the modest attitude of all women regarding their innovations and their impacts.

- **In Germany**, across sustainability dimensions and rural typologies the innovations in the farming context are centered around bringing people closer to agriculture by linking their products to stories. This aspect is important for not only the organisation of the production system (organic certification, animal welfare or high-value food) and the farm's sustainability, but the innovators also aim to raise awareness of agricultural production, and the amount of labour involved. This **'mission to message' about farming** is an outstanding commonality of all interviewees even when the individuals phrased it in slightly different ways. Although environmental, economic, and cultural sustainability are not specifically addressed in the farming setting, innovators generally agree on the significance of expressing these ideals.
- **In the Netherlands**, innovations that specifically target environmental, social, economic, and cultural sustainability are varied. Regenerative and biodynamic farming methods, which highlight cutting back on emissions, pollution, and fertilisers, are part of environmental sustainability and often focused in remote rural areas. Socially, programmes such as agroecological farms and neighbourhood food cooperatives include communities through integration with social events, solidarity membership structures, and education. Innovations in the economy span from regional delivery networks and harvest subscriptions to multipurpose pig farms and online food delivery services. Events like regional agricultural festivals that feature local products are examples of how cultural sustainability is expressed.
- **In Ireland**, more emphasis was placed on job creation, particularly in remote rural areas, where agricultural developments support local businesses and tourism. The degree of employment and financial sustainability attained are frequently correlated with how long a business has been in operation. Whether centred on environmental, social, or economic sustainability, Irish farm innovations frequently have a broad influence. In the remote rural context the innovations tangible outcomes can also be linked to increasing place vibrancy and attractiveness. For example, one innovator selected to focus on social sustainability notes that the business connects to



enhancing the attractions on the tourist route the Wild Atlantic Way. Another remote interviewee selected to focus on economic sustainability notes how her diverse, innovative farm enterprise helps contribute to change in perception of what farms can do showing they can connect into the local economy and craft industry.

A desire to grow and expand the business was something innovators could be cautious about, for example being responsible for **employing greater numbers of people**. This caution cannot be associated with a particular sustainability dimension. For example, this was also evident with innovators selected to focus on economic sustainability. The innovations themselves were sometimes services, while others produced a specific product or products. More broadly some felt their outcomes were very focused in one area, while others felt their outcomes cut across a number of areas (e.g. technological, environmental, economic).

2.5 IMPACTS OF INNOVATIONS

2.5.1 RURAL INNOVATORS/RURAL INNOVATION

More focused, targeted innovations in environmental, economic, and cultural sustainability have been made in Germany and the Netherlands, especially thanks to the contributions of female innovators. Ireland's approach is different in that it places a high emphasis on local development and impact, and less emphasis on significant environmental or economic advances.

- **In Germany for instance**, the environmental innovators in remote rural area and those close to a city have regional economic impacts via their **job creation**, the former specifically offering internships for school pupils.
 - A key social innovator in a remote rural area provides a space for networking, social interaction and education on sustainable development and healthy nutrition.
 - One innovator focused her innovation on gender-based violence and raised **political awareness** on a federal level.
 - Job creation through farm diversification, particularly for women in remote rural areas.
 - A cultural innovator, in a remote rural area is achieving gender balance in decision-making and politics, by supporting women to be elected in their local councils.
- **In the Netherlands**, women innovators have had significant environmental impact through the creation of a 500-tree eco-corridor, improving air quality, biodiversity, and the visual appeal of the landscape, largely in a remote rural area.
 - In one rural village the innovator set up an eco-village, by using tiny houses and minimal environmental impact.
 - In an area close to a city, there was a concentration on establishing bee oases and teaching about bee-friendly area.
 - Innovative approaches to sustainable food practices, like self-harvest organic farms in rural villages, food forests and edible playgrounds in rural villages, and education and direct sales of organic food in remote rural areas, encourage community



- involvement, raise awareness of food origins, and establish welcoming environments for social interaction, diversity, and cross-cultural exchange.
- Key economic impact is the introduction of new home interior products made from biodegradable, plastic-replacing materials to the market. Two female contributors, leveraging strong administrative skills and policy-lobbying expertise, made a significant economic impact through the foundation's alternative seasonal worker recruitment and placement program. They established a fairer employer-employee relationship, attracting domestic office workers and youth while addressing the labor shortages organic farms often face during peak seasons. / (Rural village) By combining smart online marketing and sales with a multifunctional organic pig farm, the innovator demonstrated that primary producers could secure significantly higher margins.
 - In rural villages, the innovator's initiative of transforming a former cow barn into exhibition space and ateliers for artists and art workshops, with a low barrier to entry, has expanded cultural opportunities for the surrounding rural village residents, enhancing their access to the arts and positively impacting their mental well-being.
 - **In Ireland**, women-led innovators are deeply embedded into their local rural community, which has a variety of effects on rural development, including promoting local partnerships, giving back to the community, and advancing gender equality through greater female participation in economic development and decision-making.
 - Women entrepreneurs show a significant **dedication to rural areas** by deciding to establish their companies there, which has a good influence on a number of sustainability characteristics without being restricted to a single area of concentration.

2.5.2 FARMING INNOVATORS/FARMING INNOVATION

Displaying a high level of modesty around their business impacts was a key comparison amongst all women innovators on farms in the Atlantic region. Additionally, farm innovations across all three countries have considerable community impact and also enhanced the wider economy, with spin-off businesses becoming established.

- **In Germany**, although social and cultural impacts were not highly evident, environmental and economic were significant. The environmental innovators active in a remote area and close to the city mention an **increase in local biodiversity** as an important impact of their innovation. The economic innovators active in a rural village and close to the city mention the social effects of their initiatives, **engaging the local community in their work** and **improving communication** between the different local actors. Across sustainability dimensions we see that the **women innovators tend to be modest** about the impacts of their innovations. Interestingly, they see themselves as part of a larger movement, notably one economic innovator stating that the organic sector is growing quickly.
- **In the Netherlands**, women impacted on **regenerative farming** by using techniques which improve biodiversity and lower nitrogen emissions in remote rural areas,



providing other farmers with a useful model. Investing in water containment facilities that stop fertiliser and pesticide pollution benefits urban areas. In order to satisfy national sustainability standards and promote long-term environmental stewardship, biodynamic farming education and training are essential for the transition to biological farming in rural areas and women are key innovators in these areas.

- Women in the Netherlands play a key role in the rise of social farming but also take part in initiatives that provide community meals and self-harvesting possibilities in urban settings encourage inclusion of marginalised communities. The combination of farming, dementia care services, and organic shopping has a major social influence on rural areas as well, improving quality of life and community cohesion.
- The "Herenboeren" movement enlists locals in cooperatives, for production and consumption, facilitating intergenerational ties and social cohesion in remote rural areas. This is highlighted through programmes providing community meals and allowing for self-harvesting experiences that work to include marginalised communities. Also, rural farming, elder/dementia care service and organic shopping can strongly affect the social structure of rural areas by improving interaction between community members and quality of life in the entire village. The innovator's initiative to host a five-day grand cultural festival centered around the region's champion produce, the potato, made a significant cultural impact.
- In **Ireland**, innovations had a substantial **community influence across all sustainability dimensions**, even though inventors were usually reserved about admitting their efforts. Some respondents, like those who are creating innovative food products or reviving traditional wool crafts, stated that the success of their businesses also boosted local pride and vitality in remote areas. Social effect was not limited to non-economic areas, as evidenced by a farm shop and café that promoted economic sustainability and acted as a hub for local community interaction.
- **Spin-off value** to the wider farm and business community was also observed as innovations interacted with other local businesses creating local economy interlinkages. For example, one innovator selected to focus on environmental sustainability and who runs a farm-based tourism business describes how another local farmer has also tapped into farm visits directly because of her business bringing tourists to the area.

3. INNOVATION ECOSYSTEMS

3.1 POLITICAL ASPECTS

3.1.1 RURAL INNOVATIONS/RURAL INNOVATION

Germany stands out for its focused political backing of cultural and environmental sustainability, particularly when it comes to women's empowerment and gender parity. Large-scale agricultural policy and a lack of support for social purposes are some of its other difficulties. With a significant emphasis on environmental and economic innovation,



especially through circular economy initiatives and cooperation with EU programmes, the Netherlands has a well-rounded political approach to sustainability. But regulatory barriers can limit expansion, especially in agriculture. Ireland has infrastructure issues that affect the political climate for sustainability, especially in the areas of internet, childcare, and financial access. Although LEADER and Local Enterprise Offices offer some assistance, obtaining this assistance is thought to be a bureaucratic hassle.

- **In Germany**, an environmental innovator, close to the city mentions the political decision to establish a biosphere reserve and local funding programmes, alongside unemployment measures, activating local workers and helped her innovation.
 - Political unwillingness was mentioned and even hindrance to address the issue of domestic violence in rural areas. Limited available funds for social causes in an innovators region and beyond leads to an 'elbow mentality' among social initiatives. The social innovator advocating for proper maternity leave on the other hand mentioned positive reactions from federal decision-makers were encouraging.
 - An economic innovator for rural women's empowerment states government policy is crucial for her ministerial programmes, as they rely on state budget for funding entirely.
 - For the cultural innovator working on gender balance in rural government bodies the support in the ministry was what led to sufficient political support by the German federal parliament for the initiative.
- **In the Netherlands**, after aligning her idea with a circular economy policy in a rural town, a female innovator benefited from political momentum that expedited planning clearances and land leasing. The LEADER programme assisted with grant bids, and the province and municipality backed a project that managed 170 hectares of land in a distant rural region, relieving the burden on local authorities.
 - In order to promote regional policies on direct food sales, an innovator in a remote rural area founded CSA farms and oversaw the "Local Food Works" ICT platform.
 - A joint enterprise in a city-adjacent area grew thanks to LEADER funding and municipal regulations that supported garden installation projects for social integration and public spaces.
 - In line with regional innovation and job creation objectives, an entrepreneur in East Groningen partnered with IHOG to create sustainable products.
- **In Ireland**, across the sustainability dimensions women were critical of policies related to rural services and facilities highlighting the need for improvements to facilitate their innovation journey. Broadband and mobile phone network coverage were particularly highlighted as issues needing political action. Childcare cost and availability also emerged as an issue for some women, but rather than being linked to a particular sustainability dimension this was more directly influenced by the life-stage of the innovator. This was also an issue that emerged in more populated rural areas where childcare availability can be better. For example, it was highlighted by one interviewee in a rural area close to a city.



- The majority of entrepreneurs received assistance from the government in one way or another, either directly (training, mentoring, etc.) or through government-run business networks. However, one of the biggest obstacles was getting funding, and applying for assistance was frequently thought to be difficult and time-consuming. Although widely used, LEADER grants were criticised for having a drawn-out application process. In Ireland, Local Enterprise Offices were seen as essential intermediaries that provided networking, training, and mentoring.
- **More broadly**, rather than policy and support weaknesses being identified in relation to any particular sustainability dimension, the need for **greater focus on supports for different stages of business development** (e.g. idea development, start-up, scale-up) and targeted towards women-led innovation did emerge.

3.1.2 FARMING INNOVATORS/FARMING INNOVATION

In all three Atlantic region countries, women farm innovators benefit from some form of government support, although all countries still face distinct challenges and opportunities influenced by political circumstances.

- **In Germany**, one environmental innovator feels political developments give her confirmation she's on the right track with her innovation, while one social innovator active on social media says with her content she reacts to political developments in the field of agriculture, to offer a farmer's perspective. One economic innovator laments a disengaged federal government, while another expresses disappointment and feels left alone, yet, another feels supported by local politicians. So, a mixed reaction from the innovators.
- **In the Netherlands**, provincial policies support innovators via encouragement and support for crop rotation, biodiversity, and organic farming.
 - Initiatives like the "Herenboerderij" in rural areas have been made possible by municipal support for cooperatives and land-use planning.
 - Long-term farm profitability and biodiversity preservation are made possible by land-use regulations and civic foundations close to the city.
- **In Ireland**, most innovators had received some form of support. More common sources of support were the **LEADER programme, from Local Enterprise Offices and the Targeted Agricultural Modernisation Scheme (TAMS)**. **ACORNS** is a rural business mentoring programme and a small number of innovators have been mentored as part of this scheme. Almost no innovators were familiar with the CAP Agricultural Knowledge Innovation System approach.
 - In remote rural contexts, training and skills support emerged from sources such as the National Organic Training Skillnet and through Innovation Vouchers. The remote context also saw the regional state agency responsible for supporting development in Irish speaking regions, Údarás na Gaeltachta emerge as an important source of funding and training support.



- **Critiques of current policies** include a need for better support for sole traders and independent businesses emerged. Across all dimensions of sustainability, the need emerged for a dedicated rural woman in business policy to better tap into the role women currently play and could further play in farm innovation and diversification. The case studies highlight that it could have a specific focus on farm diversification, start-up enterprise, enterprise further development and development of education and skills related to these areas (e.g. farm business skills, VAT/Tax issues).
- Arguments also for specific policies to provide a better support framework for local food systems. One innovator also argued this policy would not necessarily need to target women but developing a fairer food system for all farmers would be key.
- A further common critique was in relation to **Women Only Knowledge Transfer Groups** and how they could isolate women. It was felt these types of groups could create a silo effect. This does not change the narrative around women in farming being the exception rather it should be encouraged to become the norm.

3.2 ECONOMIC ASPECTS

3.2.1 RURAL INNOVATIONS/RURAL INNOVATION

Across all three countries in the Atlantic region, women innovators mainly depended on their families, their personal funds and their communities for support. Although public funds (LEADER, national and EU funds) were hugely important, these funds are often difficult to access, particularly for initiatives that are large in scope. In all countries, innovators achieved a balance between environmental, social and cultural sustainability by integrating economic strategies such as volunteering and using family assets.

- **In Germany**, innovators in rural areas close to a city used public funds (federal and LEADER). The innovators active in a rural village and in a remote area counted on family support, with the latter relying on business ownership by father-in-law. The social innovators in the rural context in a remote area and rural village respectively also relied on family support. Family support was crucial for three innovators who relied on civil society assistance (foundations, membership fees), and two of them used state funds. To launch projects, innovators used their own money, family income, or EU/federal agriculture subsidies (e.g., high family income, voluntary work).
- **In the Netherlands**, eco-friendly tiny homes were financed by the rural eco-village through volunteer labour, subsidies, and self-funding. A 170-hectare arboretum project in a remote area was funded by LEADER and private donations. A land trust was sought for future protection after an innovator in Utrecht used a family estate for workshops. Although administrative expenses were decreased thanks to volunteer labour, obtaining more money is still difficult. Innovators in rural villages set up their initial projects using family land and savings, then scaled them up without taking out large loans. Long-term financial sustainability is ensured by using family-owned land to fund cultural initiatives (like Artfarm) and earning revenue from the rental of ateliers.



- **In Ireland**, alternative finance sources such as crowdfunding did not emerge and access to finance through banks was uncommon. The point in relation to the need for support for different stages of business development (e.g. idea development, start-up, scale-up) also clearly emerges in relation to access to finance at different stages of business development. Some innovators noted that start-up costs were not huge, but finance could particularly facilitate business development after the initial startup phase. For example, one innovator selected to focus on social sustainability was successful in gaining finance through a competitive start-up scheme that aided late-stage start-up next steps. This type of example was not common but appears could be helpful to women innovators across the sustainability dimensions.

3.2.2 FARMING INNOVATORS/FARMING INNOVATION

Within all three countries, there is a reliance on personal financial resources. Women in all three countries also face difficulties in obtaining and matching funds. Disparities in public support for cultural and community-based projects were also evident in all countries. The Netherlands is notable for its community-driven and cooperative methods, while Germany and Ireland continue to struggle to streamline and obtain financial assistance.

- Within a **German context**, some innovators focus on financial independence, depending on personal funding and family assistance, but they also make use of public funding when needed. Although sourcing funding is often criticised as being complex and bureaucratic, it is still valued. While economic innovators base their farm projects on a combination of private support, public funding, and volunteer labour, social innovators make money through social media. In Germany, civil society foundations, rather than government funding, often support cultural sustainability.
- **In the Netherlands**, there is a strong emphasis on cooperative and community-based funding. As in the other two countries, women rely on personal savings, loans and crowdfunding to finance their projects, with a strong focus on regenerative farming and local food systems. Cultural sustainability is well supported with some innovators using modest land leases or ancestral land to avoid taking on large debt.
- **In Ireland**, less conventional sources of finance such as crowdfunding did not generally emerge, except for one example in a remote area where an innovator had attempted (but failed) to crowdfund during the Covid period. Across all dimensions of sustainability innovators can tap into a diverse range of sources of finance (e.g. grants, loans), but also felt access to finance was difficult. Match funding was also a challenge to raise when specific grants were obtained that did not provide full finance.



3.3 SOCIAL ASPECTS

3.3.1 RURAL INNOVATORS/RURAL INNOVATION

In all three countries women had to overcome obstacles in order to establish their innovation. To overcome barriers and become successful, women had to engaged in social networks, community support, and interpersonal interactions.

Social innovators in **Germany** encountered opposition and gender preconceptions, especially when it came to topics like raising awareness of domestic violence, but they used local support to further their initiatives.

Innovators in **the Netherlands** were able to successfully lead projects like eco-villages and environmental initiatives because they had developed substantial social capital from prior employment jobs and community involvement. These women overcame obstacles and achieved recognition by utilising their social ties in spite of gender bias. Networks played a crucial role in enabling entrepreneurs in Ireland to get resources, knowledge, and mentorship while overcoming prevailing gender and cultural conventions.

In **Ireland**, across all dimensions of sustainability and rural typologies, being part of networks was an important facilitator to the innovation journey from a number of respects. Networks could open access to information on available supports, technical knowledge relevant to the specific business, provide connections to mentors, increase their own/business profile and build trust among peers/potential business collaborators.

Similar to the farm case study, traditional cultural norms and gender roles also emerged in the rural context as a barrier in the innovation journey. It was also observed that change is beginning to happen. This appears more cross-cutting than linked to rural typologies or sustainability dimensions. To further support the change that is happening innovators stressed the need to further build visibility and recognition of rural women-led innovation and entrepreneurship.

3.3.2 FARMING INNOVATORS/FARMING INNOVATION

In the Atlantic region, women in farming often face gender discrimination, lack of recognition, and gender bias. Strong self-belief, community involvement, and vital support from partners and family were necessary to overcome these obstacles. Success, especially in farming, is dependent on both formal and informal social networks. During the early stages of innovations, spouses offered crucial emotional and financial support. Despite early obstacles, women-led farming innovations are becoming more well-known, and media coverage and changing social perceptions are contributing to a transformation in the perception of women in agriculture.

- **In Germany, social network** was very important, particularly in supporting environmental innovators. Innovators in a remote area and a rural village were not as challenged by cultural norms or gender bias, but an innovator close to the city did face



some reluctance by their surrounding communities before they got to know each other better. Despite obstacles to recognition, female agricultural innovators overcame them by forging close bonds with the community. Although there were many gender stereotypes, their skill and leadership eventually assisted in dismantling these obstacles and spurring creativity.

- **In the Netherlands**, with the help of their spouses and networks, women farmers, especially those in rural villages and remote rural areas, challenged gender norms to initiate their innovations. Many were inspired to join cooperatives and start community-based farms. Through effective leadership, teamwork, and communication, often with family support, they overcame obstacles in spite of cultural conventions. Women farmers established enterprises, switched to organic farming, and earned respect in their communities. Additionally, the Dutch daycare system supported their achievement and cultural involvement by assisting in striking a balance between civic and family responsibilities.
- **In Ireland**, across all dimensions of sustainability, innovators experienced a lack of confidence, particularly at the beginning of their innovation journey. This was often reinforced by the wider community and some family members, although huge support was given by women's partners or husbands. The need for greater recognition among wider societies and extended family emerged clearly, pointing to the persistence of more traditional cultural norms and gender roles in farming as a barrier. That said, some innovators did observe change beginning to happen and felt this to a lesser degree. As more women are involved in farms and leading successful farm-based innovations this demonstrates women are interested and have strong capacities in this area. The media in Ireland (e.g. Irish Farmers Journal) were also noted to be playing a role in changing the narrative. The lack of confidence was not just with the wider community, but women themselves sometimes experienced 'the imposter syndrome', particularly at the start of their innovation journey.

3.4 TECHNOLOGICAL ASPECTS

3.4.1 RURAL INNOVATORS/RURAL INNOVATION

Similar to farming, technological aspects dependent on quality broadband are essential for many innovators.

- **In Germany**, one social innovator and one economic innovator in a remote rural setting created new innovative hardware as part of their innovation, both in the form of transportation. The social innovator transformed a type of van commonly seen in rural areas into an anonymous and mobile consultation space. The economic innovator turned a truck into a mobile bakery and sleeping lodge. Additionally, women innovators contributing to environmental, social and economic sustainability notably came up with innovate management measures using new technologies.



- **In the Netherlands**, similar findings to farm technologies are evident. Specifically, in the case of the remote rural area, the innovator offers online education and training on setting up and running a CSA farm across the country. In the remote rural case, new technologies for transforming biodegradable raw materials into durable, long-lasting products were applied through collaborations with research institutes and labs. Alternative pig farming technologies using natural materials to reduce ammonia emissions and nitrogen pollution have been adopted by the innovator.
- **In Ireland**, again like the farm case studies, and across all dimensions of sustainability, innovators stressed the importance of technology to their innovation. Technology was also key to supporting more everyday business needs such as building a website and using online platforms for meetings or classes. The issue of up-skilling and staying apace with new technology that can assist business development emerged with some women taking a self-learning approach. For example, one innovator selected to focus on social sustainability noted how they used online materials to self-learn website development.

3.4.2 FARMING INNOVATORS/FARMING INNOVATION

Technology plays a key role in farm-based technologies, in all three countries, via all sustainability dimensions and in all rural areas. Basic internet connection serves as a major facilitator of many technological breakthroughs.

- **In Germany**, only one innovator catering to economic sustainability in the farming context developed a new hardware. She had to invent the appropriate machines for lupine processing. Innovators pertaining to all four sustainability dimensions used innovative hardware, as well as developed new management technologies.
- **In the Netherlands**, digital tools were essential to farming improvements in many aspects of sustainability. While ICT tools like member-only applications, crowdfunding, and communication platforms promoted cooperation and information sharing, online courses and platforms aided in the shift to regenerative farming and sustainable methods. Robots (such as weed-removal robots), home delivery services, and online sales platforms all improved productivity and customer convenience, which fueled economic expansion. Furthermore, to involve local communities and promote cultural events, particularly in remote rural areas, digital marketing technologies were employed, enhancing cultural sustainability.
- **In Ireland**, across all dimensions of sustainability and rural area types innovators clearly expressed the importance of technology to progressing their innovation. Regardless of the dimension of sustainability and rural area type, quality and reliable broadband emerged as an essential factor to facilitate these farm-based women-led innovations. Its availability opens a range of diverse opportunities. This can include access to online accounting software, connecting women with new sales channels through online markets and enabling marketing and business profile development through social media. Specific innovations can have very specific technological



needs. For example, wider technologies specific to certain food-based farm innovations, such as produce grading machines and pasteurisers, were also key to some innovations. This was not just the case in relation to farm innovations selected for their focus on economic sustainability but was also seen for environmental sustainability.

3.5 ENVIRONMENTAL ASPECTS

3.5.1 RURAL INNOVATORS/RURAL INNOVATION

Many rural innovative women across all sustainability dimensions and in all rural regions were conscious of environmental aspects in and around their innovation. As such, many have put actions in place to tackle climate action.

- **In Germany**, environmental innovators played a role, specifically addressing soil and water management as well as addressing climate change. Only for one social innovator in the rural context considered environmental issues, namely biodiversity, soil quality, protection of rare breeds and addressing climate change influence the type of innovation: she addresses these concerns with and as part of her community gardening project. One economic innovator was particularly moved by multiple environmental concerns when establishing her initiative: low-stress stockmanship.
- **In the Netherlands**, concerns about the global climate crisis shaped a Dutch ecovillage project from the beginning. By using solar energy, rainwater recycling, permaculture, and bio-based materials to run off the grid, the ecovillage initiative aims to reduce its negative effects on the environment. Raising awareness about sustainable food systems while providing feasible options, is the core mission of some innovators.
- **In Ireland**, perhaps obviously, environmental factors had a clear influence on women-led innovations selected to focus on environmental sustainability. However, across the other sustainability dimensions, environmental concerns still influence innovators. Many put actions in place to ensure their business was supporting environmental sustainability in different ways, such as using sustainable materials in products or implementing sustainable practices in service-oriented innovations.

3.5.2 FARMING INNOVATORS/FARMING INNOVATION

In all three countries, across all sustainable dimensions and in all rural areas, environmental aspects were of considerable importance to most if not all women innovators in the Atlantic region. Whether organic farmers or running other on farm initiatives, all women were actively supporting climate change actions on farms.



- **In Germany**, two economic innovators address GMO issues with their innovation. Across all four dimensions at least one or more innovators address animal welfare, climate change issues as well as biodiversity, ecosystems, soil and/or water management. Notably, several of the innovative farmers have organic certification. The decision to change to organic was based on ecological values, never driven by economic incentives only. However, economics is very important for organic farms also to ensure the viability of the business.
- **In the Netherlands**, innovators engaged in regenerative and sustainable farming as a result of their concerns for the environment, climate change and the future of farming, although similar to Germany, most needed to retain or improve the viability of their farm. Some other innovators were motivated by climate change and a desire for a more holistic way of life. They adopted agroecological and biodynamic farming, blending environmental consciousness with community-focused practices like self-harvesting and offering yoga in chemical-free environments. Some women also moved to organic farming, which was driven by a desire for crop diversity and preservation of landscapes. Some innovators were also focused on minimising the use of plastic at events by using biodegradable and reusable materials, to encourage environmental responsibility and increase awareness of problems like ocean plastic waste.
- **In Ireland**, environmental factors did have a core influence on the type of innovation in some cases, while in others environmental factors did not play a core role but nevertheless had strong influence on the innovation practice. The benefits of more environmentally conscious practices were also positive in reducing business costs, such as making investments in greener energy sources and installing solar panels. In the remote rural context, half of the women interviewed were organic farmers and a feeling emerged of potential future opportunity for women to be leaders in advancing organic farming in Ireland which should be facilitated with the right supports (e.g. training, support for new entrants).

4. MAINSTREAMING ACTIONS

4.1 SCALING UP

4.1.1 RURAL INNOVATORS/RURAL INNOVATION

As an overall comment, across all three countries, women innovators in rural areas are initiating significant change in policy, culture and economics. All three countries increasingly highlight both the women driving the innovations and the innovation projects themselves. This in turn has an impact on the wider society.

- **In Germany**, women innovators believe their innovations have impacted the system. For example, two policy programmes focus on influencing the policy level (cultural sustainability: program to incentivize more women to enter local politics; economic sustainability: support instrument for farm owners' family members) as well as the



maternity leave initiative. The latter has been picked up by German federal government and parliament. This policy programme of the Federal State of Baden-Württemberg provides subsidies and coaching to family members and partners of farm owners but has not been replicated by any other federal state. In terms of culture, a programme that encourages more women to participate in local politics has resulted in scheduling adjustments to satisfy women's obligations, such as maternity leave. Additionally, female entrepreneurs have made contributions to greater awareness around the environment and climate change.

- **In the Netherlands**, scaling up is evident in the project such as the eco-village project, which started out as a municipal programme but has now expanded to a more provincial policy, impacting land-use planning and building norms. The new Environmental Act was influenced by the eco-village's inclusion into the province's circular economy programme, highlighting the impact of rural innovations on national legislation. Furthermore, a local initiative that started the push for bee-friendly environments has spread throughout municipalities, fostering environmental sustainability and biodiversity. In terms of social sustainability, more towns are implementing initiatives like food forests and agro-ecological self-harvest farms, which promote solidarity and community involvement in the face of climate change.
- **In Ireland**, recent changes have seen greater attention to social enterprise in the policy environment. There is also a strong involvement and interest from women in social enterprise. This has resulted in a scaling up of the social enterprise sector in rural Ireland and providing opportunities for women to start-up and scale up businesses in this sector. More generally, a pattern among some innovators was to develop a business to a certain scale and not expand further. **Lack of scaling ambition was linked to a desire for work-life balance and being at a particular life-stage.** An emphasis on scaling up rural innovations may conflict with the ambition of some women and hence mean they do not engage with these types of supports.

4.1.2 FARMING INNOVATORS/FARMING INNOVATION

Though the extent and effects differ by nation, women-led farming innovations have spurred good developments in Germany, the Netherlands, and Ireland. Although the achievements of female innovators were acknowledged in Germany, especially in the field of direct marketing, little attention was paid to amending laws or policies. Significant changes in social norms have taken place in the Netherlands, where women are increasingly acknowledged as capable farm successors and leaders in farming organisations. Policy changes may eventually result from these developments, particularly those pertaining to farming methods and environmental sustainability. With programmes like women-only knowledge transfer groups, gender concerns have received greater direct attention in Ireland; yet cautious policy design is necessary to prevent furthering gendered divisions.

- **In Germany**, in most farming cases the innovative women and their achievements received recognition, which positively impacts social relations. However, there was



less emphasis on changing laws, policies or norms that were not highlighted by the interviewees. One woman was invited to the Ministry of Agriculture to join a working group that developed a specific value chain support measure under the Rural Development Plan.

- **In the Netherlands**, social attitudes appear to be changing as more women engage in farming and the broader agricultural industry. Also, as more women assume leadership roles and as women become more knowledgeable and competent in farming, attitudes change. Future laws may be influenced by this change, especially those related to farming methods and environmental sustainability. In particular, calls for updated environmental regulations are fuelled by ideas pioneered by women, especially in the areas of nitrogen emissions and sustainable farming. Subsidies, specialised equipment, and freelance work are all helping women farmers maintain their economic viability. While regulatory support for cultural events on farms could increase women's visibility and impact, these efforts have the potential to encourage additional innovation and growth in the industry.
- **In Ireland**, recent attention given to gender issues in agricultural policy was seen as a positive change, but also the need for careful attention to policy design to avoid unintended consequences and reinforcing gendered divisions in farming and innovation. For example, the case of **Women Only Knowledge Transfer groups could have an impact to create divides among genders in farming, but also may provide a space for women to come together and learn through sharing common experiences**. Monitoring closely the impact of any new measures appears essential to ensure women-led innovation and participation in farming is scaled without reinforcing stereotypes and replicating more traditional gender norms. Some innovators pointed to the opportunity that exists in a greater focus on farm diversification in relation to women-led farm innovation.
- **In Ireland**, the **role of the media and education** in scaling women-led innovation and creating systemic change emerges as important. It is argued that targeted action is important, such as working to change norms and attitudes within the farming community, rather than with the general public. In addition, targeting younger women and girls through the education system emerges as important to tackle unconscious bias and the un-considered or under-considered career path of farming.

4.2 SCALING OUT

4.2.1 RURAL INNOVATIONS/RURAL INNOVATION

A broad scaling out of women-led innovations was observed in each of the three countries. However, the broadening appeared to be more of a desire on behalf of many women for their initiatives to go national-wide rather than to be replicated.

- **In Germany**, none of the interviewees mentioned any replication or widening of the innovation, however, some focused on innovative approaches that were aiming for



nation-wide coverage from the outset. Notable in this regard is one initiative catering to environmental sustainability by preserving old crop varieties and sharing them with others via nation-wide horticulture networks, as well as one initiative catering social sustainability with the aim of improving maternity leave conditions across the German federation. Another woman innovator catering to social sustainability in the form of counseling in cases of domestic violence intends to become active in neighbouring regions as well and has encountered interest to replicate her initiative in other federal states.

- **In the Netherlands**, via internet platforms, LEADER networks, rural development congresses, and government workshops, innovations in rural areas are being successfully scaled, facilitating the dissemination of best practices and information across geographical boundaries. agroecological farming, eco-villages, and community-supported agriculture are examples of innovations that are being duplicated through in-person and online knowledge-sharing, frequently driven by female innovators who encourage cross-regional networking. Farm diversification and rural revitalisation are two examples of successful pilot initiatives that are being expanded to other regions.
- **In Ireland**, a broad scaling out of women-led innovation can be observed from the existence of successful women-led innovations in the rural economy. For example, innovators describe how they have linked with aspiring rural innovators (of both genders) who tell them they have been inspired by their success. There are also examples where these innovators provide advice to support aspiring and new rural innovators. This shows how existing women-led rural innovation can help in scaling out rural innovation more broadly.

4.2.2 FARMING INNOVATORS/FARMING INNOVATION

In all three countries, scaling out women-led farming innovations has been a new driver of sustainable development in rural communities. In each country, women innovators have been instrumental in advancing new farming models that promote wider social and community-based transformation, while striking a balance between environmental, economic, and cultural sustainability. A huge emphasis is placed on network development.

- **In Germany**, a number of key dairy industry innovations have been initiated by women. In particular, in the custom of separating calves after birth, two women established the calf-cow method, in which calves are nurtured with their mothers. As a result of this innovations, a nationwide network of cow-calf dairy systems has been established. Because of their contributions to a wider awareness of animal welfare in farming, these women's activities embody social and cultural sustainability. Furthering social and economic sustainability, a local women's farmers' network has been instrumental in helping its members become economically independent.



- **In the Netherlands**, there has been a significant scaling out of innovations in farming. Using digital platforms for networking, knowledge sharing and training have been a key driver. Virtual workshops, site visits, and field trips that offer insights into organic and regenerative agricultural practices have been beneficial to farmers. Many innovators collaborate with municipalities, civic organisations, philanthropic foundations, healthcare or educational institutions, and local communities. These partnerships help spread the innovations, with the innovators promoting their projects at various platforms to increase awareness and share core concepts. Several female innovators have established or joined nonprofit organisations in addition to their business ventures. This allows them to promote their innovative business models to other stakeholders and facilitate the adoption of these models in different rural contexts.
- **In Ireland**, the need for broadening of perspectives on opportunities in rural and farm-based business emerges in the farm case studies, such as having a greater focus on farm diversification and more novel areas like social and organic farming. Policy could also support this transition. The spin-off benefit of women-led farm based rural innovations is also observed in two different ways. Activities and connections could extend to the business community and wider community supporting wider positive rural development. Working to ensure women-led farm innovation has visibility in society also was observed to influence attitude change and more traditional expectations around farming and innovation.

4.3 SCALING DOWN

4.3.1 RURAL INNOVATIONS/RURAL INNOVATION

In all three countries, utilising local networks and resources is prioritised above extensive initiatives. With minimal requirement for official training or technical assistance, scaling down rural inventions in all three countries emphasises informal networks and self-directed learning.

- **In Germany**, the examples in the rural context are very diverse. Particular technical support or training was not needed. Existing networks played a role but did not appear in the foreground. Formal education or advice did not play a major role, however, all interviewees had to be open for learning and were digging deeper into the area of expertise. One interviewee, catering to social sustainability by advocating for maternity protection, highlighted the need to have a training in becoming a political activist. Noteworthy is that three women innovators in the rural context have a master craftsmanship certificate, which lays the foundation for leading a business as a craftswoman.
- **In the Netherlands**, scaling-down actions such as offering capacity-building courses, establishing common funds, or providing technical support for local women to follow the example of the innovators and create their own projects are a critical part of many



of the interviewed women innovators' activities. Even if they are not actively involved, they remain open to answering questions to local practitioners or participating in interviews with local newspapers. In social sustainability dimensions, no specific examples are mentioned, however, local LEADER action groups may play a role by offering technical support and capacity-building for those applying for LEADER funding. Proposal writing assistance is also available locally.

- **In Ireland**, like the farm case studies, most women tapped into funding and supports of some kind. Of the examples that emerged here, some were national supports (e.g. ACORNS Programme, Enterprise Ireland). However, two key local level supports were Local Enterprise Offices and the LEADER Programme that would provide more locally embedded implementation support.

4.3.2 FARMING INNOVATORS/FARMING INNOVATION

In Germany, the Netherlands, and Ireland, women engaged in farming are scaling down innovations by prioritising local implementation and capacity-building. In the framework of all three nations, scaling down is defined by a focus on information sharing, local engagement, and managing financial processes for sustainable rural development.

- **In Germany**, women are highly trained and educated, with education and training in farming available to both men and women, but with no gender specific support. Many interviewees were of the opinion that male innovators face similar problems as women. Although there is not a specific system of support for women, the educational system makes sure that both sexes have equal access to professional development and courses linked to farming. The process of scaling down is less about specialised financing or projects and more about the high level of training that women receive and practical instruction.
- **In the Netherlands**, as well as being innovators, many women in farming are also actively involved in capacity-building, leading neighbourhood projects to exchange information and assist others. In some cases, municipal or provincial funding, as well as technical support from central government policies related to biodiverse farming landscapes, may be available. These women act as powerful agents of empowerment, inspiring and supporting other potential innovators in their communities and offering help whenever possible.
- **In Ireland**, women tapped into different sources of funding, but in relation to scaling down LEADER emerges as an important support for local implementation. In addition, funding that is specific to Gaeltacht (Irish-speaking regions) assisted in a small number of cases. The existence of these schemes supported the innovation but there was also criticism of the funding process (e.g. time delays in obtaining funding).



4.4 SCALING IN

4.4.1 RURAL INNOVATORS/RURAL INNOVATION

Overall, within the three countries, scaling rural innovations led by women face both challenges and opportunities. While there are organisational capacities in place in all three countries to support innovation, there is a considerable gap when it comes to knowledge around AKIS. Limited access to advisory, bureaucratic issues and a lack of tailored support often impedes the development and scaling of women-led innovations in rural areas.

- **In Germany**, there has not been any mentioning of organisations or institutions providing assistance around rural based women-led innovations. However, one of the dominant challenges mentioned was bureaucratic hurdles. Innovations usually do not happen out of routine, so there is not enough knowledge about how to apply for grants and funds, how to avoid problems with rules and regulations, and how to get certain technical questions solved. Therefore, it is quite a common understanding that advisory is highly useful and helps to overcome typical hurdles. However, none of such services were mentioned in the interviews.
- **In the Netherlands**, scaling applies to all sustainable dimensions, with organisations and institutions having the capacity to deliver and support women-led rural innovations. However, the Dutch rural women innovators largely did not reference or find Agricultural Knowledge Innovation Systems (AKIS) relevant to their work, with a few exceptions. The development of new products benefited from technical support and advisory services from AKIS-related organisations, such as universities and R&D-stimulating innovation hubs.
- **In Ireland**, the rural case study highlighted that an important support system exists supporting rural women-led innovation, however more targeted support for rural business and women-led innovation emerged as an area of gap and need. This targeted support would be important to address the specific needs and challenges faced by rural businesses and women leading innovations in these contexts.

4.4.2 FARMING INNOVATORS/FARMING INNOVATION

In all three countries, there are examples of scaling and innovation, however the role of AKIS in supporting women in farming still remains uncertain, with many women in all three countries being unsure or totally unfamiliar with the concepts or practices of AKIS. As such, there is a real need for a greater integration of AKIS with practical supports for women. This does not mean women need to be segregated for training but make training and policies more inclusive for them. Women in all three countries face more challenges, including access to land, succession issues and access to formal innovation support systems like AKIS.



- **In Germany**, there is a limited awareness of AKIS, with many unfamiliar with either the term or the concept. Advisory services are available but no mention of AKIS. Although both men and women have access to training, financial, time and social issues may limit women accessing training. A strong emphasis on professional training is evident but no consideration of the profession training women has already undertaken. Via environmental issues, women innovators already work closely with key stakeholders, such as researchers and veterinarians which goes a long way to fostering collaboration and knowledge transfer. Women engaged in social sustainability projects tend to collaborate with NGOs and civil society groups again demonstrating a social and economic dimension to their projects.
- **In the Netherlands**, while AKIS is acknowledged in the country, it is by no means a central focus for women, although innovators engaged with 'Farmers for Nature' project at Wageningen University, gain substantially from the collaboration with research and support networks. One innovator works with Wageningen University to spotlight a connection to environmental sustainability, but no formal funding or AKIS networks were mentioned.
- **In Ireland**, knowledge of AKIS was low with only two of the twenty interviewees aware of it. Another limitation that emerged here was in relation to lack of female succession. When women are not farm owners, this can impact their access to supports. The need for women-led innovation to be taken more seriously for its potential also emerged as an issue.

4.5. SCALING DEEP

4.5.1 RURAL INNOVATORS/RURAL INNOVATION

In all three countries, women innovators are significantly influencing social norms and creating more inclusive communities via the scope and visibility of their innovations.

- **In Germany**, scaling deep referred to all sustainability dimensions. Although some of the innovators referred to effects on a political level with innovations having an impact as best practice models. Some of the innovators stated their innovations had some impact, but none of the interviewees mentioned any significant societal change beyond those related to increased knowledge. One woman who promotes social sustainability through a CSA, for example, wants to educate the local community about sustainable food production and alternatives to traditional agriculture. An environmental pioneer who operates a climate-friendly guesthouse educates vacationers about water and energy conservation.
- **In the Netherlands**, scaling deep allied to all sustainability dimensions. At both regional (provincial) and local levels, women-led innovations have driven positive societal changes, particularly in relation to gender norms, behavior patterns around food consumption, and social solidarity-building efforts. While these changes have



not fully reached the national level, the interviewed women innovators are influential figures who are well-known and respected within their local and regional farming communities and social networks. They actively voice their ideas in municipal, regional, and provincial consultation processes, helping to challenge and shift gender-biased views about women in leadership. Some of these women-led innovations are also part of national campaigns, projects, or coalitions, where they contribute by writing petitions, proposing alternative legislative approaches, and advocating for policy changes. In this way, they foster societal change.

- **In Ireland**, the case study highlights how the existence of successful women-led innovations in rural areas is shown to challenge gender norms and support the development of a more gender equal rural economy and society. It helps towards changing mindsets where rural innovation in the rural economy becomes more visible as a potential and realistic opportunity.

4.5.2 FARMING INNOVATORS/FARMING INNOVATION

In all three Atlantic region countries, the scaling deep of women-led innovations has contributed to a gradual but significant change in the gender norms and societal behaviours because of an expansion of women-led innovations, particularly within a local and regional context.

- **In Germany**, the innovators are unaware of their indirect impact on gender norms or behaviours, however, several have noticed gender norms in farming change for the better during their lifetime. It has become acceptable for women to train in agriculture and be enrolled in agricultural studies. Several women tell the story that they encountered lacking trust in their competencies when they met first with an unknown man (or female). They interpreted this perception as gender-related, “because I was a woman”. However, this attitude seems to disappear when the evidence is given that competencies are behind the female image. One interviewee reported that she was often the subject of comments that refer to her attractive appearance. This motivated her even more to impress people with her knowledge and competence to explain farming issues to the external world.
- **In the Netherlands**, scaling deep applies to all sustainability dimensions. Women-led innovations have significantly changed gender norms, especially when it comes to food consumption and women in leadership roles. These trailblazers have a significant impact on regional and local policymaking processes, fostering social change and combating gender bias. One innovator's exemplary farming practice could motivate other farmers to adopt more advanced environmental standards and instruments for pesticide use, going beyond the current legal requirements. One social sustainability innovator's self-harvest and direct purchasing of food from local producers have increasingly become the norm in the innovators' local and regional contexts, largely due to their initiatives.



- **In Ireland**, a slow change is described, and it was felt that women-led farm innovation can impact this further once their innovations and farming practices are visible in society. This visibility can be tackled in a variety of ways such as through the work of farming organisations, business organisations, and opening farms to the public. The need for men to be a part of the journey towards changing traditional norms in farming and rural innovation also emerged.

5. SUMMARY OF FINDINGS

Motivations for Innovation: Rural and Farming

Within the context of the Atlantic region, all three countries, Germany, Netherlands and Ireland showed that sustainability of the environment and society were key factors for many women. Many women prioritise climate action, alternative farming, and community-based eco-solutions. Efforts to empower marginalised groups and fulfil local social needs are key components of social sustainability, which also includes gender equality, social justice, and community development.

Economic sustainability and personal motivation were also imperative for most Atlantic based women innovators. While Irish innovators put community-based firms ahead of profit, German and Dutch innovators balance economic success with ecological and social aims, making economic sustainability a secondary concern. Individual motivations differ by country; for example, German innovators are motivated by idealism and independence, Dutch innovators are motivated by contemplation of their life's purpose, and Irish innovators are motivated by confidence in their ability to pursue rural innovations throughout their life stages.

Constraints in Rural and Farming

In all three countries, access to supports and resources were key issues for women-led innovations. In particular women have difficulties in accessing funding, land, and staffing for their innovations. In some places, advancement in their innovations is also curtailed by community opposition, gender bias and bureaucratic barriers. These issues impact women's capacity to both launch and develop their innovations.

Cultural and structural barriers also exist in the face of a lack of political or community support, but also gender stereotyping and family reluctance. In broader terms, many women's innovative efforts are hampered by poor rural infrastructure, namely, poor quality broadband, access to land and difficulties around farm diversification and new technologies.

Favourable Conditions in Farming and Rural Areas

In the Atlantic region, in all three countries, women leading innovations on farms and in rural areas benefit from strong family support, good local networks, access to some resources around land, finance and digital technologies. Women also benefit from an



attachment to place and family ties in a community. This plays a key role in a strong commitment to farming, local traditions and community.

Ideas and Preparations Activities

All women across all three countries have diverse routes and a variety of paths to starting up or maintaining their innovation. Many gained experiences through trial and error and on the job education. Many had to self-educate around their innovation, how to access support, funds and network within their communities and amongst their peers. In the early phases of their innovations, access to capital, land, and family support was essential in every country. Rural women used their networks and personal resources to overcome obstacles, whether through community ties, family donations, or subsidies. They also realised that they needed business understanding and skill development to advance their projects.

Concreating Their Innovation

Germany, the Netherlands, and Ireland's rural innovations show both commonalities and differences in their approaches to sustainability. Although the methods used in each country differed, the three all shared the objectives of generating employment and promoting communal impact. In general, Germany focusses on media-driven social sustainability, Ireland prioritises local economic growth and job creation, particularly in distant rural areas, while the Netherlands takes a more integrated approach to all sustainability components. The modesty with which all women viewed their innovations, and their effects was a significant commonality among the three nations.

Impacts of Women-Led Innovations

More focused, targeted innovations in environmental, economic, and cultural sustainability have been made in Germany and the Netherlands, especially thanks to the contributions of female innovators. Ireland's approach is different in that it places a high emphasis on local development and impact, and less emphasis on significant environmental or economic advances. Displaying a high level of modesty around their business impacts was a key comparison amongst all women innovators on farms in the Atlantic region. Additionally, farm innovations across all three countries have considerable community impact and also enhanced the wider economy, with spin-off businesses becoming established.

Ecosystem

Policies are essential in building a strong ecosystem for women-led innovations in farms and in rural areas. Overcoming social bias and barriers is essential, while ensuring women can access finance and funds to commence and advance their innovation is essential.



Mainstreaming Actions

In all three countries mainstreaming actions of scaling, in, up, out, down and deep were all relevant for women-led innovations across all sustainability dimensions and in all rural regions. What is obvious it that women innovators are driving significant change. With an emphasis on local participation, information exchange, and sustainable development, women innovators in rural Germany, the Netherlands, and Ireland are significantly altering farming methods, policies, and culture. Although still many restrictive issues for women exist, changes in farming and rural entrepreneurship are evident.

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BALTIC MACROREGIONAL REPORT

COMPARATIVE ANALYSIS

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ACRONYMS & ABBREVIATIONS

AKIS	Agricultural Knowledge and Innovation Systems
CAP	Common Agricultural Policy



INTRODUCTION

This report presents the results of the comparative analysis of the national case studies conducted in Sweden and Finland. A total of 40 female innovators were interviewed, of which 20 in the agricultural sector and 20 in the rural sector. We selected them by sustainability dimension, that is, whether their operation primarily concerned environmental (EN), social (S), economic (EC), or cultural (C) sustainability, and by their location – remote rural (RR), rural village (RV) or rural location close to a city (RC). Tables 1 to 4 provide an overview of the interviewed women and their projects. For detailed, country-level information, including method considerations, we refer the reader to Deliverable 3.3 “Women-led innovation in agriculture and rural areas, lessons learned report and fact sheets on female innovations”.

Table 1. Rural based innovations in Sweden

Type of innovation	Sustainability	Location	Age	Education	Legal form	Established in	Employees including owner, or people engaged
High-tech horsecloth products	EN	RR	44	Tertiary	Inc	2021	1 (production outsourced)
Clothes upcycling group	EN	RC	71	Tertiary	Informal group	2019	5 volunteers
Ecovillage with courses in sustainability practices	EN	RV	72	Tertiary	Sole proprietorship	2012	2 + hired course leaders
Art gallery with courses and events	S	RR	34	Tertiary	Non-profit assoc.	1998	3 + volunteers
Local library run by volunteers	S	RC	78	Secondary	CSPP	2021	5-10 volunteers
Multi-branch village revival company (store, café and more)	S	RV	60	Tertiary	Inc., Non-profit assoc.	2018	3 + seasonal workers
Business advisor for rural areas	EC	RR	61	Tertiary	Municipal project	2016	2
Medical compression products	EC	RC	42	Tertiary	Inc	2011, sold 2023	3 (production outsourced)
Driving school	EC	RV	39	Vocational	Inc	2014	13
Hatmaker	C	RR	43	Vocational	Inc	2008	3 + seasonal workers



Table 2. Rural based innovations in Finland

Type of innovation	Sustainability	Location	Age	Education	Legal form	Established in	Employees including owner, or people engaged
New local food products and services from mushrooms and herbs	EN	RR	61	Tertiary	Limited partnership	2016	2 + 10 seasonal workers
An escape room in a farm with real animals and tourism services	EN	RC	40	Tertiary	Ltd.	2017	1 + husband
Produces and sells clothing made from surplus reindeer leather	EN	RV	44	Tertiary	Ltd.	2021	1
Offers private, tailored, guided ecotherapy tours in national parks	S	RR	50	Upper secondary	Sole proprietorship	2016	1
Family horse farm providing schooling and tourism services	S	RC	41	Tertiary	Farm, sole trader and Ltd.	2006	1 + max. 5 temporary
Nature service that combines forest pedagogy with wellbeing services	S	RV	58	Tertiary	Ltd.	2020	1 + 2 partners + 1 employee
Grocery store that reduces food waste by selling overdue products	EC	RR	28	Tertiary	Sole proprietorship	2019	3 + some temporary
A family company run by two sisters offering tourism services	EC	RC	60	Upper secondary	Ltd.	2006	2 + family
Cooperative kindergarten	EC	RV	51	Tertiary	Coop.	1994	4
Annual event in a small rural municipality	C	RR	63	Tertiary	Network of volunteers	2018	1 initiator, many volunteers

Tables 1 and 2 show that the Swedish and Finnish rural based innovators are similar in age distribution – most are middle aged or older, and most of them also have university degrees – education levels are generally high in both countries. Many firms are comparatively young, though, which suggests that these innovators may have had prior careers, knowledge and experiences to build upon. Service businesses dominate in both groups, and the Finnish firms are generally smaller. Eight out of ten Finnish operations draw directly on resources provided by nature, but only one of the Swedish operations does so.



Table 3. Farm-based innovations in Sweden

Type of innovation	Sustainability	Location	Age	Education *	Size of farm (ha)	Property rights	Legal form **	Established in	Employees including owner, or people engaged
High tech dairy farm	EN	RR	40	S, V	460	Owned	SP	2014	3 + seasonal workers
Guest house/activity centre focused on sustainable farming practices	EN	RC	53	S V	15	Owned	SP	2000	8 + seasonal workers
Seed farm	EN	RV	34	T	3	Owned	Inc	2015/2023	4 + 10 season workers
Forestry and forestry courses	S	RR	57	T, V	82	Owned	SP	1991	1
Green care farm	S	RC	71	S	395	Owned	SP	1987	2 owners + municipal workers
Crop alliance, selling local produce directly to consumers	S	RV	44	T	>1	Rented	CO	2014	3 owners
Upper secondary school for innovative, sustainable farming practices	EC	RR	51	T	270	Owned by county administration	Pub	2017	1 initiator, + many involved in the test beds
Diversified berry farm. Production and sales of artisan foods in farm shop	EC	RC	33	T	>1	Rented from family	Inc	2019	1 + 12 seasonal workers + family
Production and sales of a heat isolated water buckets for horses	EC	RV	24	US	2	Parents own the property	SP	2018	1 (production outsourced)
Horse transports of timber etc. Revives old transportation methods	C	RR	54	S, C	36	Brothers own the property	SP	2010	1

* Education: S= Secondary, US=Upper Secondary, V=Vocational, T=Tertiary, C=Courses

** Legal form: SP=Sole Proprietorship, CO= Economic Cooperative, Inc= Incorporated, Pub.= Publicly owned company



Table 4. Farm-based innovations in Finland

Type of innovation	Sustainability	Location	Age	Education *	Size of farm (ha)	Property rights	Legal form **	Established in	Employees including owner, or people engaged
Family-run reindeer and fishing farm w. adventure tourism	EN	RR	50	US	n/a (small)	Owned	Ltd	2008	2 + family
A five-women coop selling and marketing herb products	EN	RC	48	US	n/a (gardens)	Owned	CO	2012	5
Farm offering programs, activities, and events	EN	RV	40	US	n/a (small)	Owned	Ltd	2021	2 + 1 + family + temporary
Stable offering animal assisted welfare services and activities	S	RR	49	US	26	Owned	Ltd	2006	1 + 7-8
Farm with animal therapy, wellbeing programs and services	S	RC	40	T	2,5	Owned and rented	LP	2015	1 + 7 partners
Sheep farm with Green care services to mentally disabled	S	RV	53	US	No info	Owned, subcon-tracted	Ltd + TN	2013	1 + family
Sheep farm with direct sales, restaurant and tourism	EC	RR	41	US	35	Owned	F	2012	1 + family + sub-contractors
Seed production and sales farm with no tilling methods	EC	RC	42	T	300	Owned, subcon-tracted	F+ Ltd	2006	1 + family + 1 + 2 temporal
Reindeer farm with herding culture-based tourism services	EC	RV	66	US	n/a (small)	Owned	P	2002	1+ family + temporary
Horse farm with equine-assisted therapeutic and wellbeing services	C	RR	40	US	2	Owned	TN	2020	1 + family + 2 temporary

* Education: S= Secondary, US=Upper Secondary, V=Vocational, T=Tertiary, C=Courses

** Legal form: F= Farm, CO= Economic Cooperative, Ltd=Limited company, LP=Limited

Tables 3 and 4 show that the Swedish innovators have a wider age distribution than the Finnish. University degrees are not as prevalent as among the rural based innovators – five in Sweden, and two in Finland have tertiary education. With some notable



exceptions, particularly in the Swedish sample, farms are small in terms of hectares. Most farms are fully owned in both countries.

In the following text we first provide a brief overview of the macro-regional context of Sweden and Finland. Detailed, country-level context information is available in Deliverable 3.2 “Inventory of female-led innovations”. We thereafter report the findings from the comparative analysis of the national case studies. Under each heading we report the answers from, first the 20 rural innovators in both countries, then the 20 farm-based innovators, noting any country differences if we find them. The same procedure applies to differences regarding sustainability dimensions and type of rural location.

1. THE MACROREGIONAL CONTEXT

Sweden and Finland are sparsely populated countries, with populations of 10,5 and 5,5 million, and land areas of 450 000 and 340 000 square kilometers respectively. The countries are largely covered by forests, with their northern parts in the very sparsely populated Arctic region. The Arctic region is also home to the indigenous Sámi population in Sweden and Finland. In addition to forests, Finland also has numerous lakes. Because of the landscape and historic conditions Finnish family farming typically combine multiple livelihoods, such as agriculture, tourism, bioeconomy, forestry, animal husbandry or salaried jobs. The countries are developed welfare states. The population has access to generous universal parental leave and daycare systems, good universal health care systems, free high-quality education, and, as a result, both countries consistently score very high on gender equality indices. A dual breadwinner system is the norm. The work force participation of Swedish women is 85%, and of men 90%. Less than 1% of Swedish women are homemakers. The figures for Finland are 77% and 77%, respectively.

The labour market is gendered. Even if women are present in all occupations, professions such as teaching, nursing and personal services are heavily women dominated. So is entrepreneurship. About 40% of all entrepreneurs are women, but again, largely in feminine gendered industries. In Sweden, this includes care, personal services and education. In Finland, the situation is similar and about a third of entrepreneurs are women. In Finland, 65% of the female entrepreneurship operate a service business and 26% operate a trade business. Generally, women will first get an education and some work experience before going into business, and they will often start a business in their field of expertise. This seems to apply to our sample as well.

The countries are highly urbanized – 80% of Swedes and 73% of Finns live in urban areas, largely in cities in the south and along the coast. The forecast is continued urbanization. The countries’ rural areas face similar challenges: rural populations are shrinking, and aging, making the continued delivery of welfare and other services untenable, which in turn speeds up urbanization in a vicious circle. Hopes are often set to large manufacturing companies to revitalize rural areas, but not only is this uncommon, it is also very risky as the recent experience with the rise and fall of the Northvolt battery



factories prove. Small- and medium sized companies that actually make up the bulk of the number of companies in both countries – and worldwide – are therefore a more reliable target for rural sustainability and innovation policy.

Entrepreneurship is more common, per capita, in rural than in urban areas. Figures from Sweden show that it is about 1,5 times as common (Tillmar et al, 2022). The rural entrepreneurship landscape is gendered, as in the cities, but interestingly, women are present in a *wider* range of businesses than are men. The situation in the labour market is the contrary. The ten largest industries for men entrepreneurs in rural Sweden are forestry, agriculture, construction and transport – all heavily masculine gendered industries, whereas women are present in almost 600 different industries, the largest actually being forestry (ibid). Many women-owned businesses provide necessary services in rural areas and are therefore important for rural sustainability (ibid). Finland the situation is quite similar. The share of female entrepreneurs was 33% in 2024, but 73% of them were sole entrepreneurs without employees.¹²

Considering that agriculture is fully rationalized in both countries since decades back – less than 2% of the employed work in agriculture – any business development related to agriculture is likely to be spin-outs of traditional farming, and it is not unlikely to be a woman's business. Women's rural businesses, on or off farms, should therefore be a prime target for innovation policy.

2. INNOVATION PATHWAYS

2.1 MOTIVATORS FOR INNOVATION

2.1.1 RURAL INNOVATION

The chief motivation for the interviewed innovators was to *realize an idea*, whether it be a new product, service, or organisational form. While often facing problems and setbacks in setting up their businesses the innovators continued in spite of it. We understand that the strong passion for and belief in their particular idea carried them through the adversities they encountered. In many cases, the idea was closely related to their previous educational or professional experience, which they used to *forge a new career*. In other cases, particularly in the Finnish data, women turned their hobby into a business career, often drawing on local natural resources. Life changes, such as leaving an unsatisfying job or having children sometimes catalysed their decision. A third observation is that the respondents wanted to realize their idea *in a particular place*, that is, where they lived or wanted to live. In many cases this involved inheriting or returning to the place where they or their companion grew up.

¹² <https://stat.fi/tup/poimintoja-tilastovuodesta/kansainvalinen-naistenpaiva.html#tyoelama>



Motivation factors that apply to all are therefore:

- A passion to realize an idea.
- A desire to forge a particular career (except for the volunteer workers).
- A desire to do this in a particular place.

Other motivational aspects were then added to their reasoning, and these differed between the types of innovations as detailed below. It should be noted, however, that there was quite a bit of overlap – an economic innovation, for example, might also strive for environmental sustainability and include social aspects, or vice versa. For example, the woman behind the horsecloth company in Sweden was keen to make her product economically and socially sustainable in addition to being environmentally sustainable. Most of the innovations in Finland were keen to be environmentally friendly irrespective of our prior categorizations. And all innovations had to be economically sustainable for their long-term survival. That said, in Table 5 we draw out some salient motivational aspects for the businesses in our sample, divided according to their main sustainability dimension.

Sustainability analysis

Table 5. Motivators related to forms of sustainability for rural innovators

Sweden	Finland
<i>Environmental innovations</i>	<i>Environmental innovations</i>
• Create sustainable products and production processes. • Model sustainable living without economic growth. • Climate action through reduced consumption	• Comply with strict environmental regulations
<i>Social innovations</i>	<i>Social innovations</i>
• Revitalize rural village life	• Provide solutions to societal problems • Increase local involvement and communality
<i>Economic innovations</i>	<i>Economic innovations</i>
• Career choice	• Family or personal livelihood
<i>Cultural innovations</i>	<i>Cultural innovations</i>
• Sustain and develop a profession and a craft.	• Increase and exploit local social capital and communality

Rural typology analysis

Regarding the rural typology, there were no notable differences in motivation between the interviewees based on where they lived and worked, except for the social innovators in Sweden that specifically aimed at revitalizing a rural village, such as the Swedish village revival company that opened a country store, a café, a home for the elderly, and



more. These companies were, of course, located in rural villages. In Finland, many of these companies were located in sparsely populated areas rather than in villages but may still be connected to and benefit from larger tourism centres.

2.1.2 FARMING INNOVATION

Most of the farm-based innovators were driven by the desire to improve their own lives, and sometimes also the rural lives of others. Improving farming practices was entwined with improving their personal lives. Improving rural lives included values beyond economic ones – people cited gender equality, clean food production, saving the extinction of meadow flowers through seed production, educating future farmers in sustainable farming practices, making life better for horses and horse owners, or supporting other traditional husbandry traditions, such as sheep farming or reindeer herding.

None of them cited economic motivation as the reason for starting their projects – not even the ones we had categorized as economic innovations – but they discovered after a while the necessity of making ends meet, and a few got a taste for business growth.

As for the rural innovators, the farm-based ones were also keen to realize their projects in a particular place, either where they had a prior connection, such as a family farm, or in a rural location to which they wished to move. At times, farms were not considered farms as such, but more as sites where tourism or other services were arranged.

There was no particular catalyst – the innovators had often thought about their project idea for a long time, and it had slowly matured.

In the case of Finland, the idea was often derived from a hobby, or a personal need or interest. Unlike in Sweden, the Finnish farmers also cited the need for diversification to make ends meet. However, even if not citing this reason, the Swedes did so in practice.

The main motivators for the farming innovators, applying to all, were therefore:

1. A desire to improve rural lives – own and others
2. A desire to improve farming or farm-related practices, including diversification
3. A desire to do this in a particular place

Sustainability analysis

Added to this were motivation related to the particular type of business or operation they had.

Table 6 details reasons given divided per sustainability category. The reasons often overlapped – innovators cited reasons from “their own” as well as from other categories.



Table 6. Motivators related to forms of sustainability for farm-based innovators

Sweden	Finland
<i>Environmental innovations</i>	<i>Environmental innovations</i>
• Model and teach sustainable living • Respond to environmental crisis	• Solutions to environmental problems • Teach sustainable living
<i>Social innovations</i>	<i>Social innovations</i>
• Address gender disparities • Change unsustainable food production	• Exploit and increase social capital • Widen & revitalise use of natural products
<i>Economic innovations</i>	<i>Economic innovations</i>
• Advance sustainable agriculture technology	• Provide livelihood for the entrepreneur and the family
<i>Cultural innovations</i>	<i>Cultural innovations</i>
• Revive traditional forestry practices	• Vitalise the countryside and increase local social capital

Rural typology analysis

There were no notable patterns or differences in regard to the rural location typology.

2.2 CONSTRAINTS AND FAVOURABLE CONDITIONS

2.2.1 RURAL INNOVATION

FAVOURABLE CONDITIONS

In our data, we identified *favourable conditions* for the rural innovations as the following:

1. Personal resourcefulness: a woman with an idea, and the applicable skills, knowledge, interest, and drive.
2. Help from family members (more often so in Finland than in Sweden).
3. Availability of financial and/or material resources.
 - Larger or technical operations relied on banks, private foundations, or public support.
 - Smaller operations relied on public support, and/or donations, in cash, in material goods, or in the form of volunteer work.
4. Access to technical and business support systems (mainly for the Swedish interviewees), available through public support organizations, incubators, and universities.
5. Access to a rich local association life and to engaged volunteer workers (mainly for the associations and volunteer organizations)
6. Access to nature and natural resources for the businesses that drew on this.
7. Access to broadband and to a car. These were absolute necessities.
8. Access to networks.
 - In Sweden, networks were instrumental to the success of the businesses, but rather than joining existing, general entrepreneurship networks, the innovators created their own networks, tailor-made to their needs.



- In Finland, existing entrepreneurship networks, especially those catering to tourism businesses, were important.

The difference in network composition between the countries is most likely related to differences in the samples – there were more tourism and services focused businesses in the Finnish sample. The Finnish hospitality and tourist entrepreneurs also cited being a woman as a favourable condition – customers were positively inclined to women hosts.

Sustainability analysis

There was no noticeable pattern regarding the sustainability dimensions. Instead, favourable conditions were closely related to the type and size of the organization. The voluntary associations were dependent on local engagement and volunteers, for example, whereas the for-profit companies were more concerned with finance, technical and business expertise.

Rural location analysis

Regarding the type of rural location, we made the following observations:

- The Finnish innovators in the tourist business depended on tourist business networks, and these were more likely found close to or connected to hubs of a city or major tourism centres, such as Ski resorts Ruka or Syöte, even if the business was located in a remote area.
- The innovators who drew on volunteer workers in Sweden were all located in a village. In Finland, there were mostly located outside the villages in the rural areas.

CONSTRAINTS

Constraints were often the flip side of the favourable conditions. The Swedes mentioned:

1. Difficulty of finding external financing
2. Difficulties of finding facilities
3. Lack of volunteers, or difficulties engaging the young, or engaging men (said the volunteer associations)
4. Bureaucratic and time-consuming regulations, e.g. building permit regulations
5. Lack of municipal interest

The Finns mentioned:

1. Difficulty finding time for marketing
2. Lack of marketing skills, particularly regarding social media
3. Lockdown during the covid epidemic for those relying on visitors
4. Inflation/recession, causing customers to de-select non-essential products and services
5. Gender discrimination



6. Work overload

The differences between the countries are most likely due to the differences in the businesses. The Finnish companies are often small solo-operations or extended family-based operations in the tourism/hospitality/event business, or they sell non-essential consumer products in feminine gendered industries. Some of them need a day-job on the side to get by.

Sustainability analysis

There was no noticeable pattern regarding the sustainability dimensions. Instead, constraints were closely related to the type and size of the organization.

Rural location analysis

There was a clear pattern regarding rural location: Being remotely located implied difficulties in transportation time and cost, particularly difficult for those relying on visitors.

2.2.2 FARMING INNOVATION

FAVOURABLE CONDITIONS

The farm-based innovators in both countries mentioned the following

1. Personal resourcefulness and an idea that motivated them to carry on, often related to sustainability.
2. Possession of skills useful for their particular business (finance, marketing, art, social work etc.).
3. Help from partners or family members in various ways, such as concrete business assistance, advice, finance, handy-man work, emotional support, or child-care.
4. Local social networks.
5. Generational continuity – businesses related to reindeer herding, for example, depend on knowledge and skills traded through generations.

In addition, the Finnish innovators said that being a woman was an advantage in the care and hospitality businesses. They doubted that a man would have made it there.

The Finns also stressed the availability of the particular natural that they drew on, stressing that this included the peacefulness of their rural environment. They also mentioned cultural resources such as reindeer or gathering traditions. The same would apply to the Swedes – they just did not mention it but rather took it for granted.

Sustainability analysis

There was no noticeable pattern regarding the sustainability dimensions.



Rural location analysis

Regarding *type of rural location*, the Finns said that being close to a city or major tourism hub with an airport was an advantage. It made it easier to connect to tourist organizations and easier to attract visitors.

CONSTRAINTS

For the farm-based innovators, constraints of concern were:

1. Access to finance. The firms started small and grew slowly, but for continued expansion more money is needed. This problem is exacerbated by the fact that many of the businesses are not eligible for funding by virtue of their industry or the design of support systems.
2. Economic crises such as inflation, recession or covid lockdown putting increased pressure on the business.
3. Lack of relevant business skills, particularly in marketing, and lack of time for it.
4. Lack of public transportation when the business was tied to the farm – they had to get visitors and clients to be able to get there. For the Finns this problem was amplified with the lack of local tourism.
5. Liability of newness – for example, Finnish health care institutions did not fully understand the benefits of animal-assisted care.
6. Work overload, threatening the innovators' health and well-being – particularly for the Finnish innovators. Their businesses were not large or profitable enough to hire help, or help, such as for berry picking, was not available.
7. Weather variation, causing variation in supply of natural resources.

Sustainability analysis

There was no noticeable pattern regarding the sustainability dimensions.

Rural location analysis

Being in a remote rural area implied many difficulties – it was harder to attract customers, harder to attract labour, and more difficult to transport goods.

2.3 IDEA AND PREPARATIONS/DECISIONS AND PREPARATORY ACTIVITIES

2.3.1 RURAL INNOVATION

Preparatory steps taken by the rural innovators were related to the type of organization they started. All of them needed knowledge, facilities, money, networks, and skills, but the nature and scope of these parameters varied widely.



- Technical innovations took a long time in development, often many years, and needed technical expertise, substantial development financing, and patents.
- Finding or building premises was an important first step for many, which involved finding the requisite finance for it.
- Businesses such as a driving school needed facilities, cars, personnel, and start-up financing for these investments and the first steps involved acquiring this.
- Non-profit organizations such as the library needed local support, a suitable, rather simple facility and volunteers. The first steps thus involved engaging like-minded volunteers, and then seeking local public support for facilities.
- Starting a website was a first step for those who already had production or services.
- Some were essentially self-financed, like the eco village, whereas others, like the rural revival company vacuumed the support systems for financial support.
- Creating networks was important for everyone, but the nature of the networks varied with the type of business and with the individual entrepreneur. They could consist of technical expertise, other local businesses, retailers, local tourism associations or international travel agencies. Some used their existing social networks; others could use networks from their previous profession. One of the organizations – the cultural event in Norther Finland – is organized and driven by a network of volunteers, so the organization is the network. The Finns also noticed that many of the networks consisted mostly of other women.
- Many were skilled in some aspect of their business but needed to acquire skills in other aspects. These aspects were varied widely between the innovators – nothing conclusive can be said about exactly what kinds of skills rural innovators need to acquire first. The women took courses in anything from marketing and finance to yoga and agricultural product development.
- While the first step was carefully planned by most, some rather “fell into it”, like the two sisters who inherited their tourist business, or the company tour guide who discovered she had a talent for it and then opened her own business.
- Many of the rural businesses in Finland said that they were happy with the current size. Growing would cost too much in terms of financial and time investment, endanger their core business values (sustainability, social responsibility) and risk taking them further away from customer interaction. Now was the time to stabilize the firm and make it profitable.

In summary, generic first steps were:

1. Acquire financial resources
2. Acquire facilities
3. Acquire knowledge and skills
4. Create networks

Sustainability analysis

There was no noticeable pattern regarding the sustainability dimensions, but a clear pattern related to organizational form. The voluntary associations were dependent on



local engagement and volunteers, whereas the for-profit companies were more concerned with financing and technical and business expertise.

Rural location analysis

Similarly, there was no pattern related to type of rural location.

2.3.2 FARMING INNOVATION

The farm-based innovators had a slightly different trajectory.

- The businesses ideas were often born by coincidence. The entrepreneur might have attended a lecture on green care, for example, and realized that this would be an opportunity for her and her farm. So, it was the combination of existing resources and new knowledge or new ideas.
- The resources were often present from start, in terms of land, animals or other farm-based resources, but had to be tweaked to support the business. This might include buying more land, more animals, repurposing a building or building something new.
- Some entrepreneurs consciously turned their networks into innovative eco-systems, including experts of various kinds, related to their particular business endeavour.
- The entrepreneurs engaged in skill building by joining associations and attending courses in general skills such as bookkeeping and marketing, as well as specific skills such as permaculture or energy therapy.
- While the three Swedish companies in the remote rural areas were self-financed, all others acquired financial resources from various sources. The Swedish ones sought out sources such as LEADER, the Swedish Agricultural Agency and other state-owned initiatives. The Finnish ones rather lamented the lack of public support or interest for their businesses – local advisory groups and banks did not support their ideas as much as they wished.

In summary, generic first steps for the farm-based innovators were:

1. Combine ideas with existing resources
2. Create networks
3. Invest in land, buildings, animals etc.
4. Acquire financial resources
5. Acquire knowledge and skills

Sustainability analysis

There was no noticeable pattern regarding the sustainability dimensions.



Rural location analysis

Networking is mentioned as the most important step both in Sweden and Finland. We observed a difference regarding type of rural location in Sweden. Networking propensity increased by distance from other people – those in remote rural areas all engaged in intensive networking to become known, find collaborators and find customers, while those close to a city did not (with villagers somewhere in between).

2.4 CONCRETISATION OF INNOVATIONS

2.4.1 RURAL INNOVATION

The rural innovators have, by and large, reached their goals, and are now either in a phase of consolidation or planning further expansion. They have launched new products or services, created new jobs and/or engaged subcontractors, seasonal workers, or volunteers, and created new networks and collaborations. Unlike before, the concretisations can fruitfully be described according to the sustainability dimensions as detailed in Table 7.

Sustainability analysis

Table 7. Concretisations related to forms of sustainability for rural innovators

Sweden	Finland
<i>Environmental innovations</i>	<i>Environmental innovations</i>
• A sustainably produced high tech market ready horsecloth • Regular, free upcycling workshops, flea markets and more • An eco-village with a complete model for sustainable living, including buildings, food production and courses	• New local food products and services from mushrooms and herbs • An escape room in a farm with real animals and tourism services • Produces and sells clothing made from surplus reindeer leather
<i>Social innovations</i>	<i>Social innovations</i>
• A thriving art gallery focused on sustainability and equality • A saved and developed local village library • Village revival, with a multitude of services and activities	• Offers private, tailored, guided ecotherapy tours in national parks • Family horse farm providing schooling and tourism services • Nature service that combines forest pedagogy with wellbeing services
<i>Economic innovations</i>	<i>Economic innovations</i>
• Business advisory service to rural clients, enabling rural start-ups and business development • Improved compression products, sustainably produced in Europe • A thriving, women-focused driving school	• Grocery store that reduces food waste by selling overdue products • A family company run by two sisters offering tourism services • Neighbourhood organized kindergarten cooperative
<i>Cultural innovations</i>	<i>Cultural innovations</i>
• A thriving up-scale business reviving an old profession and handicraft	• Annual event in a small rural municipality organized by volunteers



Rural location analysis

In Sweden, social innovations were located in villages. Apart from this, there was no noticeable pattern. In Finland, the type of rural location did not play any role.

2.4.2 FARMING INNOVATION

The farm-based innovators have also largely reached their goals, even if some struggle with low profitability and work overload – particularly in Finland. The concretisations of the farm-based innovations are detailed in Table 8.

Sustainability analysis

Table 8. Concretizations related to forms of sustainability for farm-based innovators:

Sweden

Environmental innovations

- A thriving dairy farm using innovative high-tech solutions
- A guest house/visiting place practicing and spreading sustainable horticulture and fish production methods
- A full-blown seed farm saving the unique meadow flora for the future

Social innovations

- A forestry which also provides forestry courses for women
- A green care farm providing care for disabled
- A farmer cooperative selling their produce directly to consumers through weekly deliveries

Economic innovations

- A school, developing and spreading sustainable farming practices
- A berry farm which also produces artisan foods and sells artisan foods from other local producers in a farm shop
- Production and sales of an innovative heat isolated water buckets for horses

Cultural innovations

- A transport firm using horses thus reviving old transportation methods

Finland

Environmental innovations

- A family-run reindeer and fishing farm that offers adventure tourism
- A co-operative of five women selling and marketing herb products
- A farm which offers programs, activities, and events run by two friends

Social innovations

- Stable offering animal assisted welfare services and activities
- Farm with animal therapy, wellbeing programs and services
- Sheep farm with Green care -services to mentally disabled

Economic innovations

- Sheep farm with direct sales, restaurant and tourism
- Seed production and sales farm with no tilling methods
- Reindeer farm with tourism services based on herding culture

Cultural innovations

- Horse farm with equine-assisted therapeutic and wellbeing services

Rural location analysis

The Swedish operations revealed an interesting pattern: the further from the city, the less tangible the economic outcomes, but the more positive the environmental impact. The



firms closer to a city produced more services and more jobs than those in remote rural areas.

2.5 IMPACTS OF INNOVATIONS

2.5.1 RURAL INNOVATION

The impact on gender equality is generic:

- The innovators act as local role models. They demonstrate to both women and men that women can take on leadership roles and in so doing they contribute to challenging gender stereotypes and pave the way for other women.
- The innovators often cooperate with other women, they join or create women networks, or they have women suppliers and customers, thus empowering women and strengthening female cooperation

The impact on rural sustainability also has generic components:

- The businesses provide a livelihood for the innovator and thus enable a rural life for her and her family.
- The business provides a sense of purpose and meaning
- Businesses with a local presence (as most in our sample) provide products and services, thus adding to the attractiveness of the area.
- Tourist, event, or hospitality firms draw visitors, which benefits the local economy.
- Some use subcontractors, such as the food store and berry farm in Finland, thus boosting the local economy.
- Some also trade their products through local resellers
- Many of the businesses provide employment opportunities and internships, or they hire temporary or seasonal workers.

Sustainability analysis

After the study was completed, each interviewer was asked to rank the impact of each organization, on each sustainability dimension, on a scale from 1-5. It turned out that most had an impact on more than one dimension as noted above. If drawing out some pertinent forms of impact of the organizations in each category, the following emerges:

Environmental:

- A sustainably produced, horse-friendly horsecloth, but marginal effect on rural sustainability
- Small-scale impact on climate change through reduced consumption, but also social well-being for the participants of the upcycling group
- The eco village is full-fledged model for sustainable living with large potential impact
- Sustainable production and production methods by making food products from the wildlife flora, or by using surplus leather to make slow fashion products. The latter



company also made a national website used by other Finnish slow fashion producers.

Social:

- An art gallery employing three persons, engaging the community, drawing visitors, and arranging exhibitions on issues of sustainability and equality.
- A village library and a social meeting place.
- Reversal of rural decline: population growth and new economic and social activity, including three jobs through the village revival company
- Nature and farm-based tourist, service or event businesses that produce wellbeing and learning for their clients. These businesses also form local eco-systems in their industries.

Economic:

- Rural business development and start-ups through advisory services
- New employment opportunities
- Change of industry standards (the horse cloth and the compression products)
- Provision of driving lessons and the creation of 13 jobs
- A grocery store that connects suppliers in the area, and also changes local attitudes towards food waste thus contributing to a change in consumption culture.
- A kindergarten co-op that by its very existence makes rural life possible and empowers the parents since they are co-owners.
- A tourist business that contributes highly to economic activity in the area during the winter tourist season.

Cultural:

- Jobs, apprentice positions and visitors to the area by the hatmaker.
- Continuation/preservation of traditional farming or production methods
- One of the Finnish innovations is an annual cultural event entirely run by volunteers which gathers 1200-1500 visitors to a municipality of 1400 inhabitants. No money is involved, but a sense of community, pleasure, and memorable experiences are created.

In conclusion, new economic activity, new jobs, social meeting places and visitors' attractions are created, but these different sorts of impact cut across the sustainability dimensions.

Rural location analysis

The innovations that concerned rural village revival were all, as can be expected, located in a village. Apart from this there was no discernible pattern.



2.5.2 FARMING INNOVATION

As for the rural innovations, the impact dimensions of the farm-based ones crossed the sustainability categories. Generic impact was the same as for the rural based innovators:

The impact on gender equality is generic:

- The innovators act as local role models. They demonstrate to both women and men that women can take on leadership roles and in so doing they contribute to challenging gender stereotypes and pave the way for other women.
- The innovators often cooperate with other women, they join or create women networks, or they have women suppliers and customers, thus empowering women and strengthening female cooperation

The impact on rural sustainability also has generic components:

- The businesses provide a livelihood for the innovator and thus enable a rural life for her and her family, and in many cases help sustain the family farm.
- The business provides a sense of purpose and meaning
- Businesses with a local presence (as most in our sample) provide products and services, thus adding to the attractiveness of the area.
- Tourist, event, or hospitality businesses draw both local visitors and visitors from far away, which makes the location known and benefits the local economy.
- Some use subcontractors or contract workers, thus boosting the local economy.
- Some provide employment opportunities and internships, or they hire seasonal workers.

Sustainability analysis

As noted above, most innovations had an impact on more than one dimension. Below we draw out some pertinent forms of impact of the organizations in each category.

Environmental:

- The expansion of traditional ways of hunting, gathering and fishing.
- Using wildlife flora to produce organic, sustainable skin care products, and educating local people on their use
- Renovating and repurposing old traditional farm buildings, thus preserving them for future generations

Social:

- Farms engaged in green care and similar that provide therapy and produce wellbeing for people in the whole region



Economic:

- Provision of traditional sheep products reinvigorating the local economy, but also preserving the Finish lamb breed for the future
- Similarly, reindeer farm tourism which expands the traditional nature resource economies
- Sustainable seed production providing seasonal jobs and partnerships with other firms. And preserving the meadow flora at that!

Cultural:

- Equine-assisted therapeutic and wellbeing services which preserves a traditional horse farm.
- Many of the tourist businesses also included cultural heritage visits and education in their programs. Reindeer related tourism businesses were especially keen to inform tourists of the local importance of herding traditions.

Rural location analysis

There was no discernible pattern regarding the type of rural location.

3. INNOVATION ECOSYSTEMS

3.1 POLITICAL ASPECTS

3.1.1 RURAL INNOVATION

Bureaucracy is a major concern– small and large firms go by the same rule book, and it is too much work and too difficult for the small ones to comply. They want “their own league” in terms of rules and regulations. In Finland, the regulatory framework is unclear regarding what is a farm, horse, reindeer or tourism business. The firms in both countries often received help from their municipalities, but some of the Swedish ones say that help is often conditioned on the personal interest of the municipal officers, and thus varies.

Navigating the regulatory system or the entrepreneurship support system is difficult for a start-up. The language used by these systems was challenging to understand for entrepreneurs who do not possess a business education. A user-friendly web-based entryway with links to everything a start-up must consider in starting their business is suggested. It is also noted that most support systems in Sweden are geared towards STEM businesses. These are usually large, located in cities, and controlled by men.

The non-profit organizations note that regular support systems are irrelevant for non-economic activities. Could these broaden their scope? These are also the ones who are most concerned with the level of municipal engagement. Moreover, one non-profit, an



art gallery, is concerned that public support may come with political demands for the content of culture production. A further concern for the non-profits was the aging of their volunteers – they realized that since volunteers were not standing in line, they might need to hire people in the future, and they asked for financial, legal and administrative assistance with this. The war in Ukraine has impacted the Finnish businesses severely – Russian tourists who used to visit Eastern Finland have vanished thus threatening the sustainability of the businesses located there.

Sustainability analysis

There was no correlation between political aspects and the sustainability dimensions but rather with the type of organization as discussed above.

Rural location analysis

There was no pattern regarding the type of rural location in Sweden. In Eastern Finland settlements are more spread out and traditionally more dependent on relations and connections to the East (e.g. Russian tourism). The war in Ukraine has affected these firms negatively. But these firms may still be in any of the three rural location categories.

3.1.2 FARMING INNOVATION

All farm-based firms in Sweden had received support from the public support systems, most notably LEADER, the Swedish Agricultural Agency and CAP. They all had different concerns with these systems. For some, their firms were too small to be eligible, and for others there was no call that fit their particular purpose. The calls were always specific in their purpose formulations or eligibility criteria, and more flexibility was requested. Bureaucratic applications procedures, particularly with CAP were raised consistently.

A few firms had benefitted from a prior support program for women entrepreneurs which facilitated network creation. This program is now closed.

As the Swedes, the Finns considered that rules and regulations, such as related to employment, was made with big companies in mind. Taking on a new employee was just too risky, and too entailed in regulation for a small firm. They asked for easier and more flexible rules, and also for support for hiring the first employee. Similarly, those involved in public procurement such as the green care businesses experienced that the formats and technicalities involved favoured large companies. The green care companies had lobbied parliament, but instead of improvement they had seen a policy change which restricted people's access to green care through the public health care system.



In Finland, primary producers felt that policy did not fully support them or value their contributions. These are self-sufficient and they bring nature and animals closer to people but that did not seem to count. Wind farms, while good from an energy standpoint, posed challenges to the local quality of life and threatened the viability of tourism.

Sustainability analysis

There was no correlation between political aspects and the sustainability dimensions but rather with the type and size of organization as discussed above.

Rural location analysis

There was no pattern regarding the type of rural location.

3.2 ECONOMIC ASPECTS

3.2.1 RURAL INNOVATION

This section is partly a continuation of the prior section, since many equated political factors with financial support. In Sweden, numerous public or semi-public financial support systems are available. The for-profit businesses had received support from Vinnova, business incubators, regional development funds, industry organizations, and research institutes. Associations turned to the municipalities and to private foundations.

However, the funders are rather specialized, so a particular support measure might fit one organization but not another. The systems do not communicate with each other. In some cases, support is designed for one stage in the development of the business but is not applicable to other stages. The companies producing high tech products, for example, received ample product development money, but when needing money for scaling, none was available. They had to turn to investors, or to banks, which proved difficult without taking on more owners. They wished that scaling money be available without the need for co-financing.

In Finland, all but the voluntary association received basic start-up money available to all entrepreneurs. They also received money from the EU agricultural fund, LEADER, loans for female entrepreneurs (Finnvera), government support during Covid, Business Finland Innovation Bill, and EU funded rural development projects. Problems identified were similar to those in Sweden, such as lack of knowledge about available funds, or funds with too narrow eligibility criteria. This was particularly hard for part-time innovators or very small businesses. Most funding was aimed at bigger investments or companies that employ several people, and they often required a considerable initial investment by



the entrepreneur. None of this favoured the small businesses in our sample – they simply did not have enough personal funds to invest, or risk.

A business with collateral and a predictable future revenue stream, such as the driving school, received financing from a regular bank, but those without such characteristics, not least those who produced social or cultural innovations, did not.

Some consciously avoided external financing, either because they did not need it, or because they wanted to maintain their independence. The eco village owner, for example, noted that support systems require the business to adopt the rules of these systems, for example, the duty to report specific evaluation criteria which stand at odds with her vision of a sustainable society, i.e., a society that does not pursue constant economic growth. De-growth was also the goal of the upcycling group – they could not envision any existing system that would support them – the systems are all geared towards stimulating economic growth. A general opinion was that rural areas do not need special rural support forms, but existing support forms must be made more easily available to businesses in rural areas, and that smaller, more flexible funding options are needed for small businesses.

Sustainability analysis

There was no such pattern. Whether they are for-profit companies or non-profit associations is more important since these two organizational forms are eligible for different sorts of funding.

Rural location analysis

There was no pattern regarding the type of rural location.

3.2.2 FARMING INNOVATION

We see a similar pattern as for the rural entrepreneurs discussed above. Businesses with collateral and a solid record of profitability, such as a large farm, turned to banks for financing. Those who could afford to finance their businesses development through accumulated profits did so. Smaller and newer businesses that did not meet the need for collateral or business performance turned to public support systems. The Swedes turned to the Regions, and to the Swedish Agricultural Agency, and LEADER. Most of the Finnish firms had received external support from sources such as EU-funding through Centre for Economic Development Transport and the Environment, the Agricultural fund, or LEADER. Problems are also similar: lack of knowledge of available funds, funds that have too narrow eligibility criteria, particularly in terms of the size of the business and



demands for a certain share of self-financing. This excluded many small firms, particularly in the Finnish sample.

Many of the Swedish innovators reported that networking had been a successful way for them to acquire financial and other resources. Through networking with other businesses, they acquired knowledge of funding sources, and they found business collaborators. Informal networks, and external business advisors were also mentioned in this context. Regarding the economy as such, food sector businesses in Sweden were concerned with the reduced purchasing power of their customers as a result of high inflation, and the Finns had suffered during Covid lockdown.

Sustainability analysis

There was no correlation between economic aspects and the sustainability dimensions but rather with the type and size of organization.

Rural location analysis

In Sweden, none of the remote rural area innovators applied for financial resources as a first step, whereas those in the other areas did.

3.3 SOCIAL ASPECTS

3.3.1 RURAL INNOVATION

Network participation varied considerably among the Swedish innovators. Some were quite self-sufficient and networked only with those directly involved in the innovation/organization, such as suppliers, resource providers, trade organizations, clients or participants. The ones who ran non-profit organizations or associations, on the other hand, network extensively and continually on the local level. They needed community support for money, materials, and facilities and they needed volunteers – these were scarce resources that had to be renewed continually. Formal support networks, like women's entrepreneurship networks or AKIS, were not used.

The Finnish participants were very active on the local scene and had received support from local communities and from their family members. They networked with local entrepreneurs and businesses, local tourism associations, international travel agencies, and national retailers. They used social media and events for marketing purposes. Unlike the Swedes, they also networked with local female entrepreneur associations. In fact, the Finns noted that their networks consisted almost entirely of other women. They explained that their products or services were largely used by women.



Gender norms had repercussions in both countries. Women were initially often met by suspicion (by men), particularly those who worked in male dominated fields. But once they had proved themselves, being a woman entailed visibility and respect. One innovator said she received support money more easily because the funder could tick the “woman box”. These women became role models for other women. Those active in feminine gendered fields said that being a woman was an advantage in their customer relationships – they felt that they understood their customer based and could easily communicate with them.

But problems remained. There were stories of sexist attitudes among rural youth, of men stealing women’s ideas, or of people assuming that a woman’s husband is the owner and boss, for example. While being a woman might be an advantage in relation to their customers for the Finnish innovators, it was a disadvantage in relation to other (male) stakeholders who did not understand the value of their businesses. The Finnish women were also concerned about lack of self-confidence, and they experienced work/family conflicts. In addition to gender, *age* was commented on by those who depended on volunteers. The young were not as keen to do volunteer work as older people, they said, so they were worried about succession and the long-term survival of their associations.

Rural cultural norms also had pros and cons. The fact that everyone knows each other and is willing to lend a helping hand was a large benefit, but with this comes social control. One must behave oneself. Conservative norms may hold people back. In fact, the woman who started the successful village revival company came from outside and said that she therefore saw opportunities that the locals did not.

Sustainability analysis

There was no correlation between social aspects and the sustainability dimensions but rather with the type and size of organization.

Rural location analysis

The volunteer associations who networked extensively on the local scene were located in rural villages in Sweden but in remote rural areas in Finland. Apart from this there was no pattern regarding the type of rural location.

3.3.2 FARMING INNOVATION

Networking and community support: The farm-based innovators in both countries stressed the importance of support from husbands and other family members – a farm is often a family affair. Support was emotional, financial, or practical – either with the business or with childcare. They also networked extensively locally and benefitted from



support from their neighbours and local institutions. Some cooperated with competing local businesses – they realized that they became stronger together and attract more customers.

Gender roles mattered. Many women said that being a woman influenced the kind of business they started. In Finland in particular, the women stressed that feminine characteristics such as being caring and emphatic made them start businesses such as green care or animal assisted therapy. They also thought that they were less profit driven (which was associated with men) and put values such as social responsibility or environmental sustainability first. In Finland, women are still assumed to be the primary caregivers, which combined with a strong culture of self-reliance, that one must do everything by oneself, led to work/family conflict, work overload and exhaustion. The Swedish women avoided talking about gender directly, but there were veiled references about things such as not being good enough at entrepreneurship, being restricted by responsibility for children, or not being properly listened to. On the other hand, successful women who had proved that “women can” enjoyed respect in their communities.

Rural cultural norms had pros and cons, just as for the rural based innovators. Helping hands were close by, but also social control. There were instances of initial collaboration which turned into a conflict with neighbours. Conservative rural norms meant suspicion of anything new – which in Finland included women in reindeer herding, for example, or women prioritizing work before children and their household. Male neighbours sometimes frowned upon women who stepped out of their “proper place”.

Sustainability analysis

There were no patterns in relation to the sustainability dimensions.

Rural location analysis

In Sweden, the innovators in remote rural areas were all engaged in networking, in rural villages some, and close to the cities, none. In Finland, connection to major tourism hubs was quite common, irrespective of location.

3.4 TECHNOLOGICAL ASPECTS

3.4.1 RURAL INNOVATION

Two Swedish innovators developed technically advanced products for which they received technical and financial development support, but once developed, production was outsourced abroad. Three entrepreneurs constructed buildings for their operations. The rest were largely low-tech, but *everyone*, in both countries, depended on broadband and the internet, which was available in all locations. All had a webpage and most used



social media for marketing purposes. For some this was easy, but others viewed it as a necessary evil – they felt they did not have the requisite skills, nor had they any desire to develop them but they rather wished someone else would do this for them.

Digital access to authorities and to information of all sorts is well developed in both countries. In fact, Sweden is so digitalized that the postal system cannot cover its costs and banknotes have become something of a rarity, creating problems for the elderly. Regarding access to airports, roads, bus lines, post office, trains, schools and so on, there were a few grievances, but most were content with their situation. The innovators embarked upon their projects given the amenities available to them at a certain time and place and adapted the nature and size of the business accordingly, so it is perhaps not surprising that they, on the whole, do not express misgivings. If we had asked would-be entrepreneurs, i.e. people who have ideas and plans for business start-up but have not yet started, answers may have been different – we might have been able to obtain information on any infrastructure amenities holding them back.

Sustainability analysis

The comments from the various innovators as reported above *cut across the sustainability dimensions* – what technological factors they need, and use, depends on what they deliver, not on the dimension of sustainability.

Rural location analysis

There was no pattern regarding the type of rural location in Sweden. In Finland, major tourism hubs were important, most easily accessed close to cities but also available in some remote rural areas.

3.4.2 FARMING INNOVATION

Three of the farms, all located in Sweden, were engaged in high-tech agriculture – the test beds, the high-tech dairy farm and the biochar/fish business. On the other hand of the spectrum was the horse transport business which makes a point of avoiding technology. Everyone has a website, and access to internet. The Finnish ones, of which many cater to tourists and visitors, are heavy users of social media such as YouTube, Instagram, Facebook, Facebook pixel, TikTok for marketing, and some also used TripAdvisor, blogs, podcasts and newsletters. Local development portals had also been useful. But there are pros and cons – the women expressed worries about their dependence on the internet – any system failure would affect their business radically. A woman with a background in IT pointed to the great future potential for effectivization



and increased profitability in farm-based businesses through AI and robotization. One might, for example, construct a berry-picking robot!

Sustainability analysis

There was no pattern in regard to sustainability dimensions.

Rural location analysis

Some firms in villages and close to cities in Sweden had problems with courier services since these required a certain package size. Small packages (like seeds) were not accepted, so these women spent an inordinate amount of time acting as their own courier service. For businesses in remote rural locations in both countries, the lack of public transportation hindered business development.

3.5 ENVIRONMENTAL ASPECTS

3.5.1 RURAL INNOVATION

Environmental sustainability is in various ways an important concern for every innovator. One Swedish innovation was occasioned by and addresses climate change and environmental sustainability head on, namely the eco village. It is built as a model for sustainable living, including housing, food, energy and water systems, agriculture, and biodiversity. It offers courses in all of these fields and more. On a somewhat smaller scale, the mission of the upcycling association is to encourage people to upgrade their clothes and thus reduce consumption, ostensibly for the benefit of the climate.

The other Swedish innovations we report on do not tackle environmental issues directly, nor are they directly dependent on natural resources. Nevertheless, they are well aware of climate and environmental issues and make minor considerations to these issues, for example, by installing solar panels, driving an electric car, or using sustainable materials.

For the Finnish firms, environmental sustainability is a core business value. Nature (rural environment, remote “wilderness”, forests, national parks) and its products (herbs, mushroom, reindeer leather) play a significant role in their innovations. Those producing products were keen to use recycled, sustainable and if possible, locally sourced materials. They cultivated their own food, aiming at zero food waste and they partook in nature conservation projects. Tourist businesses had sustainability labels that played a role in marketing, while food producers did not need it since Finnish wild food enjoys a reputation of being sustainable and pure.

The Finnish businesses were also subject to climate conditions. The tourist businesses focused on the winter season, so they either had to make large profits during the winter season or they needed additional income during the rest of the year.



Sustainability analysis

There was no clear pattern in environmental factors related to the sustainability dimensions – all were more or less concerned with environmental sustainability

Rural location analysis

There was no pattern regarding the type of rural location. A general observation in Finland was the concern for how climate change might jeopardize winter tourism in the Eastern part of the country.

3.5.2 FARMING INNOVATION

The rural environment including the possibility to keep animals or herd semi-domestic reindeer are essential for all the innovations and also seen as sources of wellbeing. Environmental factors were identified as a motivator for the innovation and as an outcome of the innovation. For example, a lake and an existing farm provided the conditions for the woman who started a guest house and visitors centre focused on sustainable farming practices in Sweden. This business depends on the availability of fresh berries, mushrooms, the forest, the lake, and its fish.

The innovators are keenly aware that nature must be preserved for the continued success of their businesses – environmental degradation and climate change are factors that they must deal with on a daily basis. They reported problems with drought, invasion of the spruce bark beetle destroying the forest, and wild boars destroying meadows and fields. They act accordingly and take measures to reduce waste and to use sustainable materials and other business inputs. They buy locally if possible, and they practice organic farming, recycle, use recycled furniture, and give food waste from local grocery stores to their animals. One Finnish innovator used sheep to maintain traditional rural biotopes, and another was involved in managing field and forests, wetlands, traditional biotope meadows and in restoring a creek. Some had sheep that keep landscapes open and contributed to biodiversity. Another employed circular economy as much as possible and used manure as a fertilizer. Those with sheep sold and processed wool for products. One woman who was involved in animal-assisted care was also a front runner in organic sheep farming and an entrepreneur with a seed business is actively trying to reduce dependence on oil. The seed drying runs on local wood chips and seed waste, and she uses a no-tillage farming technique. The Finnish innovators had obtained sustainability labels such as Sustainable Travel Finland certificate, Green Care labels, and Green activities certificate.

Seasonal variation was in Finland seen as something that brings rhythm to life, and work was often organized according to different seasons. For those engaged in reindeer husbandry tourism the season is during the winter and getting more tourists in the



summer is a challenge. The opposite was true for those who organized various events and escape room games during the summer.

Sustainability analysis

There was no clear pattern in environmental factors related to the sustainability dimensions – all were more or less concerned with environmental sustainability.

Rural location analysis

There was no pattern regarding the type of rural location.

4. MAINSTREAMING ACTIONS

4.1 SCALING UP

4.1.1 RURAL INNOVATION

None of the innovators has influenced laws, policies or institutions. The rural revival company had many visitors from municipal politicians though, so there is a political interest in her ways of reviving a rural village. Several had influenced norms, mostly on the local level. The food waste store in Finland had changed local attitudes toward accepting grade II and past “best before” products, while the woman who made leather belts had difficulties getting people to buy products with small, natural imperfections.

The two Swedish tech-companies had influenced or hoped to influence industry standards. Many influenced gender norms by showing that women can play an important role in rural businesses and associations, and by being role models for other women, or for young people. The Art Gallery consistently challenges gender norms through its exhibitions and activities, and it also contributes to normalising art and culture in its rural area. The Driving School changed local gender norms when it hired women driving instructors. This strategy was successful and inspired other driving schools to hire women, too. So, she changed industry standards in the region.

Sustainability analysis

There was no pattern related to the sustainability dimensions.

Rural location analysis

There was no pattern regarding the type of rural location.



4.1.2 FARMING INNOVATION

Most women reported no influence or change in this area, but there were a few promising examples. The upper secondary school for sustainable agricultural practices had become a regional science park, the first outside the cities. The forestry owner will become a member of a newly established municipal rural council. The first woman to engage in reindeer husbandry had influenced gender norms accordingly, and those engaged in animal assisted wellbeing services were involved in raising awareness about the effectiveness and existence of such services. A daughter of a Finnish participant is a parliamentarian and keen on supporting traditional rural livelihoods.

Sustainability analysis

There was no pattern related to the sustainability dimensions.

Rural location analysis

There was no pattern regarding the type of rural location.

4.2 SCALING OUT

4.2.1 RURAL INNOVATION

Several scaling models are present.

- The companies most prone to **geographical scaling** are the two producing high-tech products – the horse cover and the compression products. These have outsourced production abroad and they are opening up European markets for their products. Their impact on the local level is, on the other hand, marginal.
- The hat maker, who does produce locally, already has extensive international sales but now wants to **solidify** and concentrate on the high-end segment – they do not wish to expand further.
- The innovation advisor seeks to expand by **imitation** – she is looking for other municipalities to copy the model and is willing to train the trainers. The eco village has a similar philosophy. By teaching sustainable living methods she hopes that others will copy her model. The cultural event innovator has seen her model copied elsewhere and so has the food waste store and the tour guide. The innovators are generally positive towards imitation, even if it may mean competition in the long run. They take on interns, for example, and have study visits. The kindergarten cooperative is eager to spread the concept but acknowledges the difficulties in finding the right partners.
- The village revival company aims at further **diversification**. Besides the shop, café, service business, and home for the elderly she has hopes (or dreams, rather, since



she still lacks the resources) for horticulture, fish farming, biochar production, a local energy system, and a solar park.

- The art gallery is **happy with their current size**, and so were all of the Finnish firms. None of them had any plans of expanding their scope or range. They either wanted to stay small to keep a manageable business and be faithful to their ideals of sustainability, or the availability or inputs such as berries and mushrooms was unreliable.
- The senior citizens behind the library and the clothes upscaling group are concerned about the generational shift – there is a lack of younger volunteers.

Sustainability analysis

Scaling cuts across the sustainability dimensions. The organizations most prone to scaling are the product producing for-profit companies, and the ones least prone are the voluntary organizations.

Rural location analysis

There was no pattern regarding the type of rural location except that Finnish firms in remote rural areas are focused on scaling towards major tourism hubs.

4.2.2 FARMING INNOVATION

The farm-based firms in both countries tell very similar stories.

- First, they **do not want to grow by expanding elsewhere**. Staying at and developing their operation at the farm is their top priority. This might include constructing a new building or **diversifying** their offer. There is a value in staying small, and there is a value in keeping a close personal contact with the customers. Expansion might jeopardize the social sustainability that is the backbone of the business, said one of them.
- Second, they **welcome imitation** (on the whole, a few fear competition if imitators were to come too close geographically). Many have made it a central part of their business to spread the word: they give courses, arrange study visits, produce information materials and trainings, give talks, teach students, and so on. The women involved in Green Care are eager to spread the model and have even lobbied politicians about it. There are a few examples of imitation that has already occurred, but in most cases it has not yet happened.

Sustainability analysis

There was no pattern in relation to sustainability categories.



Rural location analysis

There was no pattern regarding the type of rural location.

4.3 SCALING DOWN

4.3.1 RURAL INNOVATION

Most women had received some form of support or funding. This is detailed in sections 3.1.1 and 3.1.2 and will not be repeated here. A general observation, though, is that business support systems are more readily available for organizations that are engaged in economic activities with growth potential. Innovation funding, business incubators, and rural development funding essentially bypass social or cultural innovations or environmental innovations that do not pursue economic growth. Instead, such businesses must look to other sources, such as money from the municipal and regional culture budgets or private foundations. These budgets are considerably smaller than the budgets for innovation support. In addition, some of these business models call for a great deal of voluntary work. Some had learnt to tweak the system, like the village revival company, which has engaged in construction projects, thereby making the company eligible for rural development support. It should come as no surprise that it takes expertise and ingenuity to navigate the complexities of the current business support system successfully.

Sustainability analysis

There was no pattern in relation to sustainability categories.

Rural location analysis

There was no pattern regarding the type of rural location.

4.3.2 FARMING INNOVATION

Most women had received some form of support or funding. This is detailed in sections 3.1.1 and 3.1.2 and will not be repeated here. Not included in prior sections, however, is the information that the Finnish firms, in particular, had availed themselves of courses and seminars to a great extent: in entrepreneurship, female entrepreneurship, leadership and business management, running escape rooms, GreenCare, MinD, energy therapy, social media, social pedagogical horse instructor, neuropsychiatric coach, nature care centered riding instructor, nature- and animal-assisted work instructor, and more. Some of these courses were offered by universities. One of the Swedish farm-based innovators, focusing on forestry, said that her next step is to create a lasting business



that transcends the typical projects proposed in funding applications. She echoes previous sentiments about the limitations of the project form.

Sustainability analysis

There was no pattern in relation to sustainability categories.

Rural location analysis

There was no pattern regarding the type of rural location.

4.4 SCALING IN

4.4.1 RURAL INNOVATION

As reported earlier, many organizations in this study have received financial or other support from public or private organizations and institutions, but on the whole, the innovators have not fostered any change in the practices or values of these institutions. There have been attempts, though: the innovation advisor, who is essentially a part of the support systems, not only disseminates knowledge of the systems among rural entrepreneurs, but she also tries to influence the actors in the support systems to pay more attention to rural businesses. The village revival company frequently receives study visits from municipal officers (but not from her own, though), and the owner of the hat company is on the board of a vocational school for hat makers and wants to contribute to training a new generation of hatmakers.

If an institution is defined as a way of thinking and acting though, one could argue that the companies by their very existence and practices have changed local institutions, through the networks they are engaged in, the customers they meet, and the services and product they provide – many of these encourage and spread sustainable living practices. Nevertheless, the innovators have many suggestions of how organizations and institutions could improve their support to rural women-led businesses:

- Support is available but can be hard to find. One needs time and skills to navigate the systems. An easy one-stop entry portal would be of help.
- Support is biased – the bigger and more profitable a business and the larger the investment, the more support is available. Support actors should see the value of small business which may not always privilege economic returns but other equally important values.
- Support is too tailored to a specific purpose which may limit business development. The innovators ask for more flexibility in how to use the money.
- One woman suggested tax reliefs for domestic food production.



- Running a small business is time consuming and can be exhausting for a solo entrepreneur. They must devote all of their time to produce their products or deliver their services. Professional help with finance, marketing, sales, and social media was asked for. Outsourcing these services somewhere was suggested. Another idea was forming a cooperative with businesses in the same industry to achieve economy of scale regarding marketing.
- Many women in Finland asked for more networks: they wanted to meet other innovators, also abroad, for learning, support, idea generation and benchmarking. Views on network composition differed: some wanted only women networks, some looked for industry-networks and others were keen to involve businesses from different industries.
- The Finnish innovators asked for help with coping and well-being – work overload and risk for burnout was not uncommon. In particular, they asked for better support for childcare when children are small.
- Finally, they wished that support actors be receptive to wild and crazy ideas. Not all investments pay off directly in terms of money, but perhaps in image building or visibility.

The innovators do not have any knowledge about AKIS but turn to “regular” support systems. In the case of Sweden, we note that none have used the otherwise most commonly used small business support actors, namely Almi and Jobs and Society, which suggests that these could increase their presence in rural areas.

Sustainability analysis

There was no pattern in relation to sustainability categories.

Rural location analysis

There was no pattern regarding the type of rural location.

4.4.2 FARMING INNOVATION

As reported earlier, many of the interviewed organizations in this study have received financial or other support from public or private organizations and institutions. Those that did not would have wanted it. None of them report that they have fostered any change in the practices or values of these institutions. As for the previous group, though, they had suggestions of what would be needed:

- Opportunities for financing for small investments, and forms of financing that do not require any personal savings.
- Training opportunities, especially in marketing.



- Cooperation with academia in student exchange programs.
- Help with physically heavy farm work.
- Affordable sick leave insurance and farm relief services.
- Participation in peer networks, also internationally.
- Women-only networks (said a Finn) that also can provide emotional support.
- The Finnish innovators wanted help with coping and well-being. Overworked women may not even have the energy to seek out help, so there should be some program for seeking them out in the first place.
- Finally, as the rural innovators did, the farm-based wished that support actors be receptive to wild and crazy ideas and not say no when there was no immediate economic pay-off.

The women innovators did not know about AKIS and had not used it.

Sustainability analysis

There was no pattern in relation to sustainability categories.

Rural location analysis

There was no pattern regarding the type of rural location.

4.5. SCALING DEEP

4.5.1 RURAL INNOVATION

The innovators we interviewed are relatively modest women and do not think they have changed any prevailing norms or values, except perhaps marginally and, if so, only locally. In fact, women in both countries say that they live in a comparatively gender equal society. But as mentioned previously, the women are role models as women innovators and thus make such an entrepreneurial career a possibility for other women. Furthermore, they also demonstrate to men that women can be successful entrepreneurs. Some women in male-dominated areas met resistance at the beginning but once having proved themselves, they enjoyed respect in the local community. We therefore conclude that they have *changed gender stereotypes*, at least locally.

Some of these women have *changed local rural attitudes towards culture* by way of their activities, for example, the art gallery, the library which arranges reading groups for young people, and the hatmaker who arranges study visits for young people. Some innovators *challenge the consumption norm*, like the ecovillage which inspires and educates others about sustainable living, the upcycling group that mends clothes, or the food waste store. Three innovators changed, or hope to *change, industry norms* (the driving school, the horse cover and the compression products). The innovation advisor



has *influenced attitudes to business* among the rural population. Finally, the revival company presents a *model for rural village revival*.

Sustainability analysis

There was no pattern in relation to sustainability categories.

Rural location analysis

There was no pattern regarding the type of rural location.

4.5.2 FARMING INNOVATION

The farm-based innovators were as modest as the rural innovators regarding changes in gender equality. They said that they already lived in a gender equal society. However, as discussed in earlier sections, by doing what they did they proved that women were capable of running a business. They thus acted as role models for other women, and they proved disbelieving men wrong, thus *influencing gender equality locally*. That said, some innovators have plans to influence local attitudes. The crop alliance seeks to build local cohesion, and a community concerned with securing local food security. The forestry owner says that in five years, she will probably be a politician so she can continue to push rural issues. The owner of the horse transport business would like to change timber transportation norms to more sustainable options.

Sustainability analysis

There was no pattern in relation to sustainability categories.

Rural location analysis

There was no pattern regarding the type of rural location.

5. SUMMARY OF FINDINGS

Highlights

- The innovators were driven by the desire to realize specific ideas, in particular rural areas, and improve the lives of themselves and others. Environmental sustainability is crucial for all, either as a business proposition, or as an adopted measure.



- Economic gain was not a primary motivator, and financial sustainability was difficult to uphold. The innovators faced bureaucratic and financial difficulties since existing support systems were inadequate, particularly for small firms, or social and cultural innovations. The innovators suggest a user-friendly web-based entry point for regulations and funding, and they wished more flexible rules and consistent municipal support. Nonetheless most innovators achieved their goals of creating jobs and new products or services. Access to resources such as knowledge, skills, family support, and finance were crucial, though often insufficient.
- The innovators have not influenced laws or policies but have impacted local norms, challenged gender stereotypes, and provided opportunities for local culture. They have contributed to rural economic, environmental, social and cultural sustainability.
- All innovators relied on technology, especially broadband and internet communication.
- They use various scaling models, often preferring manageable sizes and encouraging imitation.
- None of the innovators were aware of AKIS.

5.1 INNOVATION PATHWAYS

Motivation: The rural innovators were motivated *first*, to realize a particular idea, *second*, to forge a particular career and *third*, to do this in a particular (rural) place. Other motivators were then added, that were related to their particular innovation, be it counteracting climate change or spreading culture to young people. The farm-based innovators wanted to first, improve their own lives, second, improve the lives of others. How this improvement was to be achieved was related to their type of innovation, such as contributing to clean food production, or saving meadows from extinction by seed farming. These motivations varied by sustainability dimension as could be predicted, but in fact, most dimensions were present in each innovator's answers. No-one cited economic motivation as a prime driver but realized that they had to make ends meet which formed their trajectories.

Constraints and favourable conditions: Favourable conditions equalled, in essence, access to necessary resources. These varied between the firms. Resources mentioned were: i) knowledge and skills in their field of operation, but also general business skills such as finance and marketing, ii) support from family and kin, iii) financial resources, iv) material resources – land, buildings etc., v) technical or business support systems, vi) access to wildlife and nature, vii) networks, viii) local associations and volunteers, ix) donations, x) broadband, a car, public transportation, and courier services. Constraints were the flip side of the favourable conditions. Even if they had access to a particularly important resource, they often needed more of it. Marketing and social media were mentioned as particularly difficult – the entrepreneurs were more interested in “doing their thing” than in engaging in marketing activities. The tech companies lamented the lack of scaling money.



Preparatory steps: Preparatory steps varied widely between the organizations and were entirely related to the type of operation. Technical innovations needed a long time in development and access to technical expertise and development funding. Finding/building, and financing premises was important for others. Some needed to recruit volunteers, others already had a product or service ready and began by setting up a website, and some had to develop a particular skill. Everyone needed to create networks. These were in most cases tailor-made to the particular operation, but some also benefitted from existing entrepreneur or tourist networks. The farm-based firms differed only in the respect that they for the most part already had the material resources needed and repurposed them.

Concretisations: The rural innovators have, by and large, reached their goals, and are now either in a phase of consolidation or planning further expansion. They have launched new products or services, created new jobs and/or engaged subcontractors, seasonal workers, or volunteers, and created new networks and collaborations. The farm-based innovators sometimes struggle with low profitability and work overload, particularly in Finland.

Impact of innovations: All innovators challenged gender stereotypes. They proved to men and women, and to young people, that women can run successful operations and thus became role models. They cooperated with other women, joined or created women networks, or they had women employees, customer or suppliers, thus empowering women and strengthening female cooperation. All contributed to rural economic sustainability by way of having a business in rural areas, and most also contributed to environmental, social or cultural sustainability.

5.2 INNOVATION ECOSYSTEMS

Political aspects: Innovators reported problems with navigating the systems and with bureaucracy taking time and resources. A user-friendly one-stop entryway to rules and regulations was suggested. All companies go by the same rule book irrespective of size, so the small ones wished they could have their own leagues, with easier and more flexible rules. Many had help from their municipalities but noted that municipal engagement varied with personal interest from municipal officers. The non-profits reported that regular support systems are largely irrelevant for non-economic activities and wished that they could broaden their scope. The Finnish primary producers felt that the support systems were not interested in small businesses without future large income streams, and the green care companies said that the public procurement systems favoured large employers.

Economic aspects: Only firms with collateral and a predictable future income stream used bank financing. Others turned to public support which was available in many formats in both countries. However, funders are specialized, and the systems do not communicate with each other, so the innovators had problems finding one that fit their purpose, or their stage of business development. The tech companies found



development money, for example, but not money for scaling. The innovators wished for a financing portal that would be easy to navigate, and for more flexibility on how they could use the money. Very small companies said that public funders were not interested – they are geared for larger investments. Business cycles and the Ukrainian war caused problems in terms of dwindling demand.

Social aspects: All firms *networked* but the nature of the network varied with the type of organization. Some networked only with those directly related to their product or service such as suppliers, resource providers, clients or participants. Other networked extensively on the local scene. This was particularly relevant for the non-profit and voluntary organizations.

The Finnish companies and the rural based companies in Sweden mentioned support from husbands and kin as essential. Partners could be co-owners or provide other practical or emotional support. *Gender norms* had repercussions in both countries. In Finland, they influenced the type of business the women started – these were largely in feminine gendered industries. Many had met initial gender discrimination, but once having proved themselves in business they enjoyed respect. Finnish women reported work/family conflict since they were assumed to take primary responsibility for their children. Networks were often women dominated. *Rural cultural norms* had pros and cons. Helping hands were close by, but also social control. Conservative norms meant a certain resistance to innovation – many of the good ideas reported here were introduced by people who came from outside.

Technological aspects: There were many examples of technological development, also a few high-tech, whereas others prided themselves on going back to traditional ways of doing things, like the horse transport company. However, everyone depended on technology, and in particular broadband and internet communication. They all had a website, and most were active in social media. Luckily, broadband was present everywhere. Everyone also had easy digital access to authorities and information. Regarding access to airports, roads, bus lines, post office, trains, schools and so on, there were a few grievances, particularly in remote rural areas, but most were reasonably content with their situation. This is not surprising, since they had started their firms given the amenities at hand and adapted accordingly.

Environmental aspects: Environmental sustainability is a concern for everyone. For some, particularly the Finnish firms, it is a core business proposition, whereas others make considerations such as installing solar panels, driving electric cars or using sustainable material and/or production methods. The rural environment and its natural resources are essential for all the farm-based innovations. Climate conditions such as drought, invasion of spruce bark beetle or wild boars threaten the viability of the businesses. Tourist businesses depend either on the summer or the winter season and must often find other income sources in the off-season.



5.3 MAINSTREAMING ACTIONS

Scaling up: None had influenced laws, policy or institutions, even if there were some promising examples, such as the rural village revival company that received study visits from municipal officers. Several had influenced local norms, for example regarding food waste, art, culture, or various sustainability practices. Everyone had influenced local gender norms.

Scaling out: The rural innovators exhibited several scaling models: geographical scaling by opening up markets abroad, solidification by concentrating on high-end products, diversification by opening up new lines of business in the present location, or imitation, seeing someone copy the model elsewhere. Many consciously encouraged imitation, they wanted to spread their business model to other places. Most, however, were happy with their current size, and in fact all the Finnish firms were. They preferred a manageable size. This was also true of all farm-based innovators. They did not want to grow by expanding elsewhere but wanted to stay put on their farm. They might diversify in their current location, though, and they welcomed and encouraged imitation.

Scaling down: Most everyone had availed themselves of forms of innovation support, or funding, but support is more readily available for organizations that are engaged in economic activities with growth potential. Innovation funding, business incubators, and rural development funding essentially bypass social or cultural innovations or environmental innovations that do not pursue economic growth. These must look to municipal and regional culture budgets or private foundations. These budgets are considerably smaller than the budgets for innovation support.

Scaling in: Many organizations have received financial help, advice, training or other help from institutions. However, none was aware of AKIS. Except for minor local impact, the innovators have not fostered any change in public or private financial or other institutions. They have, however, many suggestions, including i) a one-stop portal for easy access to help, ii) availability also for small investments or investments with purposes other than economic, iii) flexibility in how to use financial support, iv) training in, or professional assistance with marketing, finance, sales and social media, v) more peer networks, vi) help with childcare, coping and wellbeing to counteract overload, and vi) openness to wild and crazy ideas.

Scaling deep: The innovators have changed local attitudes towards women and gender relations, attitudes towards art and culture, challenged the consumption norm, influenced attitudes to business among the rural population, modelled sustainable living and in a few cases changed industry norms.

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CENTRAL EASTERN MACROREGIONAL REPORT

COMPARATIVE ANALYSIS

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ACRONYMS & ABBREVIATIONS

AKIS	Agricultural Knowledge and Innovation Systems
C	Cultural
CAP	Common Agricultural Policy
CSO	Civil society organizations
EC	Economic
EN	Environmental
LAG	Local action group
RC	Rural location close to the city
RR	Remote rural
RV	Rural village
S	Social



INTRODUCTION

Central and Eastern Europe macroregional report presents the findings and results of the comparative analysis of the national case studies conducted in Slovenia, Czechia and Romania. A total of 50 female innovators were interviewed, of which 20 in the agricultural sector (from Slovenia and Czechia) and 30 in the rural sector (from all three countries). We followed the process of selection of women/innovators by sustainability dimension (whether their innovation primarily concerned environmental (EN), social (S), economic (EC), or cultural (C) sustainability) and by their location – remote rural (RR), rural village (RV) or rural area close to the city (RC).

For detailed, country-level information, including methods considerations, we refer the reader to Deliverable 3.3 of FLIARA project “Women-led Innovations in Agriculture and Rural Areas, Lessons Learned Report and Fact Sheets on Female Innovations”, which is also available on FLIARA web page (Sivini et al 2024).

In the Introduction the Tables 1 and 2 provide an overview of the interviewed women and their innovative projects. Table 1 presents characteristics of rural innovations and Table 2 presents characteristics of farm innovations

The presented rural innovations (30) in Table 1 highlight each country's unique approach to addressing rural challenges. Slovenia and Romania lean more toward grassroots, community-led projects, while Czechia includes larger-scale initiatives with institutional backing. Romania distinguishes itself with a focus on gender and rural civic engagement, while Slovenia stands out in recycling and organic farming initiatives. Czech Republic's use of public institutions also reflects its longer history of environmental and social programs.

In Table 2, where farming innovations (20) from Slovenia and Czechia are presented, the broader development of the agricultural system is reflected by the selected women innovators. The average size of the farm (in hectares) in Slovenia is significantly smaller and reflects the small-scale farming in the country while the farm innovators from Czechia are much larger. The important difference among countries is also in the number of employees on the farm - again much higher for Czech women innovators' farms.



Table 3: Rural innovations from Slovenia, Czechia and Romania

Type of innovation, number of interview	Age	Educational Level	Sustainability	Location	Legal form	Year started	Employees, including owner or manager
RURAL BASED INNOVATIONS, Slovenia							
International volunteer centre that addresses local needs and strengthens solidarity	43	tertiary (higher education)	EN	RR	NGO	2013	2
Designing unique, environmentally friendly clothing, promoting recycling and reuse of materials	41	tertiary (higher education)	EN	RC	Sole proprietors hip/self-employed	2008	1
Organic school gardens network	61	tertiary (higher education, PhD)	EN	RV	NGO	2010	1 to 2
Institute for psychosocial support and inclusion of people with different disabilities in various activities	52	tertiary (higher education)	S	RR	private institute, NGO, social enterprise	2018	NA
Improving the situation of immigrant women, providing intercultural mediators, and promoting gender equality	40	tertiary (higher education)	S	RC	NGO	2016	2
Reuse centres, employing people with less opportunities in the labour market	56	tertiary (higher education, PhD)	S	RV	social enterprise, limited company, cooperative	2009	32
Bringing new knowledge and methods to remote rural area through various projects, trainings and establishing collaboration	60	tertiary (higher education)	EC	RR	social enterprise	2013	3
Aa local store aiming to support small Slovenian businesses	35	tertiary (higher education)	EC	RC	limited company	2014	7
Regional collective brand	49	tertiary (higher education)	EC	RV	public institute	2012	11
Developing tourist experiences, based on herb garden/herb house, local cultural heritage and local stories	35	secondary and tertiary (higher education)	C	RR	LLC	2018	1 to 2



Type of innovation, number of interview	Age	Educational Level	Sustainability	Location	Legal form	Year started	Employees, including owner or manager
RURAL BASED INNOVATIONS, CZ							
Ecological village with educational function	46	tertiary	EN	RR	NGO	2005	25
Protected landscape area, with additional tourist and educational function	51	tertiary	EN	RC	State institution	1991	NA
Ecological kindergarten; connected with the Czech Association of Landscape Protection	50	tertiary	EN	RV	NGO	2013	4
Municipality; South-Moravian village of the year 2012	47	tertiary	S	RR	Public institution according to the Municipal Act	NA	8
Innovation agency in energy, mobility, environment, social and health services and participation	49	tertiary	S	RC	NGO	2022	10
Local action group Kyjov Slovakia in motion		secondary	S	RV	LAG	2002	21
Cleaning agency with social function	49	tertiary	EC	RR	Ltd.	2015	25 to 50
Lucius confectionery with socio-cultural dimension	42	secondary	EC	RC	Natural person doing business according to the Trade Act	2014	4
Business incubator connected with the Polytechnic secondary school	53	tertiary	EC	RV	Contribution organization of the South Moravian Region	2022	NA
Embroidery aimed at maintaining cultural heritage	55	basic	C	RV	Natural person doing business according to the Trade Act	1999	1



Type of innovation, number of interview	Age	Educational Level	Sustainability	Location	Legal form	Year started	Employees, including owner or manager
RURAL BASED INNOVATIONS, Romania							
Initiated a project/CSO on biodiversity education	39	tertiary (higher education)	EN	RR	None	2020	2
Fights for the rights of peasants as stewards of seeds, biodiversity, and nature within a national CSO	62	Secondary (middle school)	EN	RC	Civil Society Organization (NGO)	2014	1
Built her home using natural construction (strawbale house)	39	tertiary (higher education)	EN	RV	None	2013	NA
Initiator of a CSO which implements projects focusing on creating empowering women networks within her region, and civic engagement for rural development	47	tertiary (higher education)	S	RR	Civil Society Organization (NGO)	2003	4 to 6
Experienced project manager and gender expert working on increasing rural women's political participation and tackling domestic violence in the NE region of Romania	53	tertiary (higher education)	S	RC	Civil Society Organization (Foundation)	2000	15
1st woman deputy mayor (and in the meantime elected mayor), working on improving the living conditions for the community through sustainable rural development and inclusion practices	42	tertiary (higher education)	S	RV	Elected in Local Administration	2020	10 to 20
LAG manager with various additional initiatives supporting sustainable women entrepreneurship in her commune, also tourism entrepreneur	46	tertiary (higher education)	EC	RR	LAG	2015	6 (LAG); 5 (volunteering center)
Entrepreneur aiming at supporting the local development through sustainable tourism	38	tertiary (higher education)	EC	RC	Enterprise	2011	2
Content creator and HORECA entrepreneur revaluing local gastronomy	37	tertiary (higher education)	EC	RV	Gastronomic point	2021	2
Young photographer and documentary filmmaker working with senior rural	27	tertiary (higher education)	C	RV	None	2015	1



Type of innovation, number of interview	Age	Educational Level	Sustainability	Location	Legal form	Year started	Employees, including owner or manager
people, who established a cultural and education center in her village offering alternative education through art opportunities to children.							

We noticed some similarities across all three countries:

- **Strong focus on social and environmental sustainability:** In all three countries, innovations emphasize social and environmental values, community support, gender equality, and inclusion for marginalized groups.
- **Educational initiatives:** Many projects across the three countries incorporate educational aspects, whether through ecological education, skill-building, natural constructions of buildings or cultural heritage preservation. These include organic schools/kindergartens gardens, centres for art-based education, and initiatives that encourage knowledge sharing in rural areas.
- **Diverse legal structures of innovations:** Each country “utilizes” a variety of legal forms to achieve their goals, including NGOs, social enterprises, and cooperatives. This variety demonstrates a flexible approach to legal frameworks to support social and environmental objectives.
- **Emphasis on local culture and heritage:** Innovations in all observed countries strongly focus on preserving and promoting local culture. This is seen in projects involving local brands, cultural tourism, and traditional crafts, like embroidery in Czechia and herbal tourism in Slovenia.
- **Several different initiatives to support disadvantaged groups:** Many initiatives aim to support disadvantaged or marginalized groups, including immigrants, women, people with disabilities, the elderly, ethnic minorities, and those with limited access to the labour market. This is a recognised common thread in social innovations, particularly in Slovenia and Romania.

The following differences should be also mentioned in the context of Central Europe rural innovations:

- **Legal and institutional diversity:** **Slovenia** leans heavily on NGOs and social enterprises, with a mix of private institutes and limited companies supporting various initiatives. **Czechia** includes state institutions and public organizations, especially in ecological and municipal projects. For example, protected landscape areas are managed as state institutions, showing a closer connection between social/environmental innovations and government entities. **Romania** shows a prevalence of civil society organizations (CSOs) and local action groups (LAGs) dedicated to social causes, often with minimal formal legal structures. For instance, some projects operate with no formal organizational structure but focus on community-driven goals.



- **Innovations scope and scale:** **Czechia** is included with larger projects with more employees, such as ecovillages and protected landscape areas. Some Czech projects have long-established roots (e.g., since the early 1990s) and greater staffing (up to 50 employees), indicating higher levels of organization and potential government support. **Slovenian and Romanian innovations generally involve smaller teams or are managed by individuals**, especially among projects that focus on entrepreneurship and personal initiatives. Many projects in these countries operate with fewer than 10 employees, reflecting a smaller, more grassroots approach.
- **Gender and political participation:** **Romania** has a notable emphasis on gender equality, with projects specifically targeting women's empowerment, political participation, and addressing domestic violence. This focus is less prominent in Slovenian and Czech initiatives. In **Slovenia** and **Czechia**, while social inclusion is a priority, there is less of a targeted emphasis on gender-specific issues compared to Romania.
- **Duration - age of presented innovations/projects:** **Czechia** is included with some of the “well established” projects, several dating back to the early 1990s. This suggests a long-standing tradition of community and environmental initiatives, possibly due to earlier state support and public institution involvement. **Slovenian and Romanian innovations** are relatively young, mostly established after 2000. This could reflect more recent shifts toward social innovation and sustainable development in these countries.
- **Sustainability dimensions:** **Czechia** shows a balanced focus across environmental, cultural, and social sustainability, with projects ranging from environmental preservation to energy and mobility innovation. **Slovenia** tends to emphasize environmental sustainability (e.g. recycling, reuse), along with social inclusion. **Romania** leans more toward social innovations, with particular attention to civic engagement, gender equality, and supporting rural women. Additionally, there is a focus on entrepreneurship (economic sustainability) tied to local traditions, such as sustainable tourism and local gastronomy.

Table 4: Farm-based innovations from Slovenia and Czechia

Type of innovation, number of interview	Age	Educational Level	Sustain-ability *	Location**	Legal form	Year started	Farm size (ha)	Property rights	Employees, including owner or
FARM BASED INNOVATIONS, Slovenia									
Tourist farm in the mountain area, integration of organic farming (also ARK farm) and agritourism	48	tertiary (higher education)	EN	RR	family farmer	2010	50	own	3
Organic farm, specialised in olive oil and rural tourism (degustation on farm)	44	tertiary (higher education)	EN	RC	family farmer	2012	8	majority rented, some owned	2



Type of innovation, number of interview	Age	Educational Level	Sustainability *	Location**	Legal form	Year started	Farm size (ha)	Property rights	Employees, including owner or
Organic-biodynamic herb farm	45	tertiary (higher education)	EN	RV	family farmer	2010	6,5	own, some land leased	4
Social farm, as a space for volunteers, trainings and promoting natural building	40	tertiary (higher education)	S	RV	family farmer, private institute with social enterprise status	2010	8	own	1,5
Processing food surpluses by farmers or small processors	60	secondary	S	RC	cooperative, social enterprise	2013	8	own (3 ha) rented (5 ha)	12
Eco-social farm, employment centre for the disabled people	23	tertiary	S	RR	private institute with employment centre for disabled people status, social farm	2015 first owner, 2023 she took over	5	rented	12
Revitalising organic mountain farm	40	tertiary	EC	RR	family farmer	2012	40	own	0,5
Microgreens	38	tertiary (higher education)	EC	RC	company	2014	2	building rented (260 m2), fields owned	5
Vegetable production and processing (pickled vegetable)	36	tertiary (higher education)	EC	RV	family farmer	2014	50	own, some fields leased	2
Farmstead with an old mill, preserving traditional cultural heritage through workshops, farm visits	40	tertiary (higher education)	C	RV	family farmer	2018	8	own	0



Type of innovation, number of interview	Age	Educational Level	Sustain-ability *	Location**	Legal form	Year started	Farm size (ha)	Property rights	Employees, including owner or
FARM BASED INNOVATIONS, CZ									
Association under community supported agriculture	45	tertiary	EN	RR	NGO	2014	18	own	10 (volunteers)
Greenhouse cultivation of tomatoes	39	PhD.	EN	RC	Ltd.	2017	15	own	100 to 200 (depending on the season)
Organic farm with own elaboration and sale	45	tertiary	EN	RV	Family farm	2001	412	310 own	7
Ranch with organic cattle breeding, service for western disciplines	50	secondary	S	RR	Ltd.	1994	300	Partly leased (120 owners)	11
Farm of ecological education and hippo-rehabilitation	52	tertiary	S	RC	NGO	2009	10	own	120 (partly volunteers)
Social farm within Camphill society	NA	tertiary	S	RV	NGO + public benefit society	2009	2	own	15
Agro-touristic farm connected with horse breeding	64	tertiary	EC	RR	Ltd.	1993	5	own	1
Conventional agricultural cooperative with precise agriculture	45	tertiary	EC	RC	cooperative	1951	6100	NA	178
Organic farm with agri-touristic function	45	PhD.	EC	RV	Ltd.	2004	65	NA	1

Among 20 farm-based innovations from Slovenia and Czechia we noticed **differences in the age structure** of the women leading farm-based innovations, with an on average older age for Czech female innovators. Among 10 interviewed women just one innovator younger than 40. It is important to mention the **different legal and institutional status of the innovation projects** – in Slovenia family farms strongly prevail, while in Czechia the farm innovations are mostly cooperatives, limited companies (Ltd.) and NGOs. The selected examples of farm-based innovations have longer tradition in the case of the Czech Republic, while Slovenian innovations are of more recent date. We also find that farm-based innovators **in Slovenia are less directly linked to primary agricultural**



production, and that innovative practices are often linked to other complementary activities on the farm (the farm serves as a “starting point” for the development of new innovative practices).

And finally, we must highlight a common feature - **the education level of farm-based innovators is**, as we already noticed among rural innovators, **well above average**, strongly dominated by tertiary (higher) education. It is important to outline that two farm innovators from Czechia have a PhD.

In this macroregional report, brief and concise findings from the 50 interviews, are presented. Under each heading we report the final conclusions from, first, the 30 rural innovators in the three countries, then the 20 farm-based innovators from Slovenia and Czechia. We looked for similarities as well as differences with special focus on sustainability dimensions and type of rural areas.

1. THE MACRO-REGIONAL CONTEXT

In the following chapter we provide a brief overview of the macro-regional context of Central European countries – Slovenia, Czechia and Romania. Despite decades of related histories and totalitarian socialist political regimes, each country under consideration has pursued quite specific policies, which have been reflected in the different development of the agricultural sector and rural areas. However, in all three countries, the last three decades have also seen a transition and some of the differences have even deepened. For detailed, country-level context information we refer the reader to our prior national reports.

Romania is by far the largest of the three countries (238,391 km²) and has the second-highest percentage of rural areas in the EU, with 46.1% in 2021, representing 9.1 million rural inhabitants across 87% of the country's surface (ESPON, 2020; Eurostat, 2017). Rural areas are administratively categorized into communes, with 79.6% of them having populations between 1,000 and 5,000 inhabitants. The blurred distinction between urban and rural has led to the rise of semi-urbanized villages and underdeveloped towns, forming a rurban continuum (Berescu, 2022). In the year 2023, Romania's population stood at 19 million, showing a slight increase (of 9,100 people) compared to the previous year, mainly due to an influx of refugees and work-related immigration. **Rural areas face challenges like depopulation, ageing populations** with an average age of 42.2 years (MDLPA, 2020), and high fertility rates, particularly in Vaslui region. Quality of life in rural Romania is severely impacted by limited access to essential infrastructure, social services, and economic opportunities, leading to systemic neglect compared to urban areas (Berbecar et al., 2020; Stănescu, 2022). **Nearly half (48.5%) of Romania's rural population is at risk of poverty or social exclusion.**

In **Czechia** (one third of Romanian territory (78,871 km²)), 27% of the population live in small municipalities with up to 2,000 inhabitants, and 31% of the population live in small towns (2,000 to 20,000 inhabitants), which are crucial for rural development. **Since 1994**,



the number and share of **the rural population in the Czechia has been slowly but steadily increasing**. The average population density is 138 inhabitants per km² and varies by region from 65 persons in the South Bohemian Region to 219 persons in the Moravian-Silesian Region (Prague was not taken into account).

Czech agriculture sector occupies a unique position within the EU. It ranks first in the **average area of agricultural land per 1 holding (132ha)**, first in the share of entities over 500 ha (6.6%), first in the **number of employees per entity (4.9 people)**, and second place in the share of ecologically (organic) managed entities (15.3% of land). In contrast, it ranks 28th in the share of family workers (37.2%), 24th in the share of own agricultural land (26.9%) and 24th in the number of workers per 100ha of agricultural land (3.8 persons). 2% of the economically active population work in agriculture. A total of 15% of people working in agriculture are young people under 30 years old, 72% are middle-aged (30-60 years old) and 13% are seniors. Less than a third of the workers (32.5%) are women.

Slovenia, mostly mountainous and forested, covers only 20,271 km². The **entire Slovenian territory** (excluded 16 cities with more than 10,000 inhabitants) is defined as “**rural**”, in total 9 out of 12 regions (NUTS 3 level) are defined as predominantly rural. According to the more general typology based on the NUTS 5 level (municipality level), there are **two types of rural municipalities** (together represent 50% of Slovene territory, 24,6% of total population). **Rural municipalities with a shrinking population**, mostly border municipalities that are remote from transport and have been facing population decline and stagnation for a long time (29.2%; population density is only 43.9 inhabitants/km²). **Rural municipalities with a growing population** are mostly located in valleys and basins, with good transport links or with a long history of stable population growth. The number of inhabitants is steadily growing (by almost 8% in the last ten years, mainly due to immigration), making up 14% of Slovenia's total population.

The **agricultural sector in Slovenia** is characterised by a modest amount of agricultural land (forest strongly dominates with 60%). Natural conditions for farming are less favourable. The **total number** of agricultural holdings **in 2023 decreased by 7%** compared to the year 2020 from 54,599 to 50,531 (previous methodology: the total number of agricultural holdings was 74.646 in 2010 and 68.927 in 2020). An average agricultural holding in Slovenia manages 8.8 hectares of UAA (selected size of farm-based innovators on average over 13 hectares). We **are faced with a strong concentration of agriculture and very fast “erosion” of small farms**. Access to agricultural land is an increasing challenge due to very unfavourable conditions for agriculture (in 2023 total area of UAA was 447,158 hectares, mostly permanent grasslands (56% or 250,705 hectares), and only 170,495 hectares of arable land).

To summarise, while in **Czech and Slovene rural areas** in general positive changes and developments are present, Romania **faces several challenges like depopulation and ageing** populations. Particularly worrying is the fact that **rural population is at risk of poverty and/or social exclusion**.



All three countries are relatively sparsely populated (distinct rural demographics from 80 inhabitants per km² in Romania to 130 inhabitants per km² in Czechia), still characterised as predominantly rural, but **the challenges of rural development are quite different** due to the past development, huge differences in the size (of countries territory) and accessibility to regional centres.

Agricultural sector in the Czech Republic and in Slovenia is difficult to compare due to the past development differences. In Slovenia small scale farming is still prevailing (even if a process of land concentration is evident in last decade), where family members (as labour force) still play a crucial role, while in Czechia the non-family labour force is far more involved.

2. INNOVATION PATHWAYS

2.1 MOTIVATORS FOR INNOVATION

2.1.1. RURAL INNOVATORS

In **Slovenia**, rural-based innovators are driven by **a blend of personal motives**, such as the desire for professional independence, financial stability, career changes, and **work-life balance**. They are also motivated by a passion for meaningful and fulfilling activities that contribute to environmental or social sustainability, as well as a strong connection to their local environment (hometowns) and rural communities. Very similarly, in **the Czech Republic**, women **seek an alternative to city life**, aiming for a healthy and **economically sustainable lifestyle** for their families. They are also motivated by a desire to pursue personally meaningful activities that allow them flexibility in managing their time. In **Romania**, however, motivations are deeply rooted in **community engagement**. Many rural innovators see their **well-being as intrinsically linked to the welfare of their communities**, particularly women, who often prioritize collective well-being over personal gain. A strong motivation is the creation of "third spaces" for women to gather outside traditional settings, fostering social interaction, empowerment, and a supportive network. Additionally, individual lifestyle choices to live harmoniously with nature are connected to a broader vision of sustainability and community responsibility.

Environmental innovations in Slovenia are often focused on creating and promoting sustainable products and services, driven by a desire to contribute to a more environmentally sustainable future. Examples include projects centred on education connected with organic farming (organic school gardens) and recycling/reuse (green job creation). In the Czech Republic, environmental initiatives focus on preserving and enhancing the rural landscape for residents and tourists, demonstrating a commitment to both environmental stewardship and community benefit.

Social innovations in Slovenia aim to revitalize rural life and ensure that vulnerable groups, such as individuals with disabilities, young people with limited opportunities, and



immigrant women, are visible and included in their communities. The Czech Republic's social projects also focus on developing social life in villages, frequently through association activities, while maintaining and improving essential services for residents. In Romania, social motivations are largely driven by women aiming to empower their communities and take on leadership roles. Although many do not view themselves as traditional leaders, they work toward building collective resilience and envision a sustainable future for their communities.

Economic innovations show some variation across the countries. In Slovenia, economic activities often revolve around creating local brands and connecting producers for joint market opportunities, frequently aligning with tourism development. In Czechia, economic innovations focus on developing alternative industries, with a strong emphasis on tourism. Romania, on the other hand, shows a specific focus on enhancing the economic autonomy of women and supporting entrepreneurial ventures led by rural women. This often overlaps with the broader goals of rural women's empowerment, self-realization, and participation in community life, including decision-making processes.

Cultural innovations in Slovenia and Czechia emphasize preserving cultural heritage and local knowledge, often in connection with tourism. In traditional regions of Czechia, there is a focus on maintaining folklore and cultural traditions, which is seen as essential to regional identity. In Romania, while not explicitly detailed, cultural motivations are implicitly woven into the efforts of community empowerment and social engagement.

The differences in rural typologies also vary. In Slovenia, no specific rural typology differences are noted, while in Czechia, challenges differ across regions. Suburban areas focus on maintaining elements of rural life, traditional villages shift from agriculture to other industries, and peripheral areas prioritize accessibility of services. In Romania, rural innovations do not significantly vary based on typology, as the motivations and types of projects tend to be broadly applicable across different rural settings.

2.1.2. FARM-BASED INNOVATORS

Farm-based innovators in Slovenia and Czechia are mostly motivated **by family traditions** (to continue the farm tradition and develop/improve agricultural practices) or **by personal needs** - to develop personal career and achieve economic independence. In both countries the importance of environmental sustainability is also addressed together with cultural sustainability (promotion of agriculture and traditional practices) and social sustainability (creating more inclusive and sustainable communities, participate in the social life of municipalities by organizing social events).

In **Slovenia** some additional motivators were recognized:

- professionalization of hobbies or already mentioned continuing family traditions,
- searching for economic stability of the family,



- personal needs or career reorientation (mostly new entrants),
- strong positive attitude towards farm life (with or without previous experiences), a desire to improve rural life.

In **Czechia** some additional important motivation factors are:

- Possibility to combine work and childcare,
- business improvement,
- development of the farm but also assure prosperity of the whole community (local scale).

We can conclude that farm-based innovators merge primarily agricultural activity with strong educational accent. They are often strongly rooted in local environment. There is also a strong emphasis on environmental responsibility - organic or biodynamic farming, environmental responsibility, emphasis on ecosystem services, etc. (several organic farms, breeding of indigenous breeds, etc.).

Regarding the **rural typology**, in remote rural areas of Slovenia, the aspiration and motive to improve rural life, by strengthening the economy with supplementary activities on farms, mainly tourism, is evident. In both countries a strong aspiration to preserve agricultural landscape (land) in rural areas close to the city is present. Additionally, in Czechia, the promotion of farm life and agriculture as a promising, technologically advanced sector is detected.

2.2. CONSTRAINTS AND FAVOURABLE CONDITIONS

2.2.1. RURAL INNOVATORS

Women innovators faced several challenges and constraints, some of them related to the type of rural areas, others to the experience and duration of implementation of the innovative practice.

Among key challenges/constraints in **Romania** we should mention:

- **strong community reluctance toward female leadership.** Women innovators need to counter this through extensive networking, locally and internationally, often making networking itself part of their innovation.
- **Infrastructure limitations.** Some women leaders have tackled these constraints directly by advocating for better transportation services or organizing community-based solutions like carpooling.
- **Navigating bureaucracy:** some women have addressed this barrier by seeking legal advice and utilizing political connections.
- **The lack of access to social services, particularly childcare.** This affects several rural women innovators. In response to this constraint, some women created child-friendly spaces or designed activities considering mothers' needs to ensure their participation.

Constraints for rural innovators in **Czechia** are:



- Accessibility of services in smaller villages (remote rural areas).
- Lower level of human capital.

Constraints for rural innovators in **Slovenia** are also:

- Lack of (specific) funds and/or unstable financing. Several rural innovations are organised in a project-oriented way, so their activity is often related to the provision of adequately funded projects.
- Lack of established networks at the beginning, limited access to information.
- Bringing novelty, understanding of the innovations, gaining trust from the local community. This constrain is more often reported from women, who started new career, or they started innovation in new location.

Among favourable conditions in Romania is very important to outline, that many women innovators come from privileged backgrounds with access to education, information, and some financial resources. So, they have an advantage - more favourable conditions for self-empowerment, skill development, and innovative thinking. This support stems from their families, who played a significant role in shaping their early opportunities. They also rely on partners, families - to easier navigate gender role challenges. Resilience and networking capacity, supported by family and community, are key personal and contextual enablers for their success.

Among favourable conditions **in Slovenia** support from the partner/family was exposed, additionally support from the enabling environment, financial supports and fundings as well as personal financial resources (savings). As important advantages networking capabilities and (good) references also play an important role and facilitate the development of innovation.

Similar in **Czechia** the help of partners or parents was recognized as important facilitator for innovation development.

Regarding the **rural typology differences**, it is evident that rural areas close to the city have an issue with the relationship between residents and newcomers. Rural villages face the transformation of the agricultural sector, remote rural areas the infrastructure limitations and accessibility of services. But we should also mention that the remoteness of the rural areas, lack of infrastructure and people, border locations etc. were recognised as locations which offer opportunities for customized innovative solutions (by Slovene innovator).

Across all three countries it is evident that **family support and recognition in the local community** are a prerequisite for the successful development and operation of an innovative practice. This fact highlights that women in innovation development receive support mainly from within their families and local communities, but there is a need for broader attitudinal and political support.



2.2.2. FARM-BASED INNOVATORS

The perception of barriers and favourable conditions in farming showed **significant differences between women in Slovenia and the Czech Republic**. While Czech women innovators are focused mostly on farm itself and agricultural production, Slovenian women have a broader understanding of their innovations on the farm, often taking place alongside primary agricultural activity as a supplementary activity on the farm. Main recognised obstacles for farm-based innovators in **Czechia** are:

- Structure of Czech agriculture sector - very large enterprises, most of the land is leased. The lack of farmland is a significant limiting factor (at the level of ownership or at the level of renting).
- Natural conditions - disturbance of soil and hydrological conditions, declining biodiversity.
- Competition in agriculture production from abroad.
- Relation between conventional and organic agriculture.
- Climate change in the context of farm production.
- Lack of working force. Lately the working force capable of work on the farm is becoming a serious problem.
- Bureaucracy, constantly changing subsidies conditions.
- Negative perceptions of agriculture. In Czechia farm-based innovators often report the “bad” image of agriculture and many women also see their mission as changing people's attitudes towards agriculture.

Recognised obstacles for farm-based innovators in **Slovenia** are:

- Limited financial resources when starting up. Farm-based innovators stressed the importance of financial and institutional support for new, non-traditional, non-agricultural activities on farms. Present policies are orientated towards conventional approaches.
- Availability of agricultural land and difficulties with purchasing due to restrictions for new farmers and different regulations. The availability of quality agricultural land is a wider problem, and a particular challenge for women. Gender differences have proved to be important in addressing the issue of farmland.
- Underdevelopment of legislation, regulations and funds for social activities on farms. This obstacle was mentioned several times as far as innovators are more active than average in the social innovation field.
- Very “traditional” agricultural advisory service (also skills and knowledge of advisors) and policies.
- Positioning with products on a market with a lot of imports and large food players.

Across both countries we noticed few similarities among farm-based innovators. Competition in agriculture production together with positioning with (local) products seems to be a common important obstacle. Also access to land (availability of land) is an important issue and obstacle.



Regarding the rural typology differences, for innovators in remote rural areas this entails long transport distances, high costs and the distance from larger towns as well as the lack of public transport (mostly associated with mountain farming in Slovenia). In suburbanized areas (rural areas close to the city) several conflicts of interest for the fertile agricultural land are present.

Among favourable conditions in Czechia women have highlighted the role of family background and support of family/partners. Importance of family support was mentioned in all presented cases. Half of the women started a (farm) business together with their partner (recognised as significant advantage). In **Slovenia** women also recognised family support as one of the crucial preconditions for a successful practice (farming is a decision for the certain lifestyle). An important advantage is access to family-owned land, a farm or pre-existing infrastructure (continue the family tradition). Starting from scratch in agricultural business is extremely difficult and highly risky. Women in Slovenia mentioned also the importance of knowledge sharing within the family or wider community.

Regarding the **rural typology differences** we could notice that the innovators (from both countries) in the areas close to the city can benefit from “cooperation” with the city. Remote rural areas are more convenient for development of innovations connected with organic agriculture.

2.3. IDEA AND PREPARATIONS / DECISIONS AND PREPARATORY ACTIVITIES

2.3.1. RURAL INNOVATORS

In the case of **Slovenia**, many rural women innovators made the transition into new careers later in life, often due to a shift in personal values. They build on prior professional or volunteer experiences, enhancing their skills through formal education or courses in entrepreneurship, marketing, and sustainability, as well as by learning from international examples. In **Czechia**, women tend to take a cooperative approach, balancing social issues and often working across political boundaries. They prioritize collaboration with men rather than competition, and, being less focused on career progression, often find mutually beneficial solutions. In **Romania**, women innovators are inspired by experiences abroad, which foster self-empowerment and a commitment to bring sustainable change to their communities. They mobilize resources and establish local, national, and international networks to access funding and collaboration opportunities. Continuous skill-building in areas like business, digital skills, and sustainable farming is common, with many formalizing their initiatives through NGOs or local businesses.

In terms of **environmental innovations**, Slovenia emphasizes education, particularly in schools, to raise awareness of environmental protection and sustainability, focusing on



circular economy practices like reuse. In Czechia, the emphasis is on maintaining the landscape and enhancing village appearance, while Romania's approach is less centered on technical infrastructure and more on community-based, sustainable practices.

Social innovations across the three countries are community-driven, addressing unmet rural social needs and focusing on inclusion and empowerment. Slovenia frequently registers social enterprises to create jobs for marginalized groups (long-term unemployed and people with disadvantages in the labour market, especially women), while Czechia employs softer methods to improve social life. Romania's social innovations are also highly community-centered, often led by women who engage with local authorities to sustain these projects.

Economic innovations vary slightly, with Slovenia focused on local branding and creating value-added products to ensure economic sustainability. Czech women entrepreneurs generally start from the ground up and often avoid expansion, whereas in Romania, economic efforts emphasize women's financial independence and entrepreneurial initiatives to strengthen rural communities.

Cultural innovations aim to preserve traditional skills and local knowledge, with women often leading cultural tourism and organizing community events in Slovenia. Similarly, in Czechia and Romania, women play a central role in maintaining cultural life, frequently acting as organizers and promoters of local heritage.

No differences by type of rural areas can be observed.

2.3.2. FARM-BASED INNOVATORS

In **Czechia**, men focus on technology and crop production, while women focus on livestock farming and multifunctional activities. Environmental innovations led by women emphasize the well-being of farmed animals and improving the working environment. Social innovations are prominent, where women create employment opportunities for disabled individuals. Women also play a key role in education, organizing farm excursions to improve the public perception of agriculture. Economically, they excel in marketing, direct sales, and agricultural services.

In **Slovenia**, women who inherit family farms benefit greatly from ancestral knowledge and existing infrastructure, though they often face the challenge of modernization. Innovations include renovating infrastructure, adopting new technologies, developing value-added products, and pursuing certified production like organic farming. For newcomers, acquiring land and financing—whether through grants, loans, or savings—is crucial. Skill development through workshops, learning from international practices, and hands-on experience is vital, as is local networking.



Women in both countries drive innovations that combine environmental care, social inclusion, and economic progress. In Czechia, the focus lies on social agriculture and improving working conditions, while in Slovenia, modernization and sustainability are key priorities, particularly for inherited farms. Women also play **a key role in educational activities**, such as organizing farm excursions and **raising public awareness**, thereby improving the public perception of agriculture. Economically, **women are increasingly active in marketing, direct sales, and the development of agricultural services.**

No significant differences regarding the type of rural areas were observed in either Czechia or Slovenia. However, in Slovenia, there is a clear distinction between women who inherited family farms—benefiting from existing knowledge and infrastructure—and those who entered farming as newcomers, where acquiring land and resources posed additional challenges.

Innovations appear consistent across rural areas, with women focusing on social farming, environmental improvements, and educational activities regardless of the rural context.

2.4. CONCRETISATION OF INNOVATIONS

2.4.1. RURAL INNOVATORS

In Slovenia, concrete innovations are evident across various sectors. These include the development of new products and services, such as sustainable clothing through reuse centres opening, educational activities for children about organic farming (and environmental topics), and personal assistance services promoting social inclusion for immigrants, people with disabilities, and other marginalized groups. Additionally, reuse centres function as support systems for hard-to-employ individuals, and volunteer centres address local needs where formal institutions fall short.

In Czechia, innovations are more structured around environmental preservation and social services. Examples include ecological villages, protected landscape areas, and ecological kindergartens, all aimed at sustainable rural development. Social innovations include the recognition of a “Municipality of the Year” that promotes community pride and development, as well as local innovation agencies and action groups that foster community organization and social growth.

In Romania, innovations led by women have fostered environmental, social, and institutional changes. These include sustainable businesses promoting eco-friendly practices and initiatives that empower women within local communities. Projects often focus on increasing community engagement, addressing issues like domestic violence, and supporting employment and training opportunities. Institutionally, these innovations help redefine traditional gender roles, opening up leadership positions for women and challenging stereotypes.



Economic innovations in Slovenia involve creating regional collective brands, supporting local producers, and providing consulting to foster new projects. In Czechia, economic activities include cleaning companies, sweet shops, and a technological incubator to encourage local entrepreneurship. In Romania, economic initiatives often create job opportunities within rural areas and facilitate training and employment, particularly supporting women entrepreneurs and community-centred enterprises.

Cultural innovations in Slovenia include developing high-quality tourist experiences in remote rural areas, while in Czechia, projects focus on preserving traditional crafts like folk embroidery. In Romania, cultural innovations aim to maintain heritage through traditional gastronomy, rural crafts, and cultural identity reinforcement.

The **typology of rural areas** also influences the innovation focus. In Slovenia, remote areas emphasize environmental and cultural sustainability, while rural villages balance social, economic, and environmental needs. Areas near cities often prioritize economic sustainability due to better market access. In contrast, Czechia and Romania show no significant variation in innovations across rural typologies, with projects addressing broader rural challenges uniformly.

2.4.2. FARM-BASED INNOVATORS

In Slovenia, environmental stewardship is a core theme, with farms adopting sustainable practices such as organic farming, permaculture, and biodiversity conservation. Eight out of ten case studies practice organic farming, and five are officially certified. Concrete examples include a 6-hectare herb farm that produces herbal salts, teas, and tinctures while providing workshops and educational visits, creating two jobs. Similarly, farms producing organic olive oil, hazelnut, and apple products offer tastings and visits, leading to additional employment. An organic tourist farm not only grows vegetables but also restores cultural heritage and preserves indigenous animal breeds, resulting in eight new jobs. These innovations combine environmental benefits with tangible economic and cultural outcomes. **In Czechia, environmental innovations focus on practical sustainability efforts**, including planting greenery, managing waste, and cultivating crops in greenhouses, such as tomatoes. Organic farms with their own sales channels reflect a localized approach to environmental and economic sustainability.

Social innovations in Slovenia are strongly focused on inclusion and community development. One initiative involved restarting an organic farm to employ 12 people, 10 of whom are disabled, by developing vegetable and herb products and workshops. Another project created a sustainable permaculture training ground on farm that includes vulnerable youth, offering soft-skills programs and youth worker trainings while also providing employment opportunities. These initiatives highlight the social dimension of sustainability, fostering empowerment, education, and job creation for marginalized groups. Social innovations **in Czechia** emphasize education and inclusion through farm-



based services. Farms offering ecological education raise awareness of environmental practices, while social agriculture initiatives create employment for vulnerable groups. Additionally, ranches provide recreational activities, such as services for western riding disciplines, contributing to community life.

Economic innovations in Slovenia emphasize entrepreneurial approaches, **brand development, and value-added products**. A vegetable farm expanded its production from 2 to 7 hectares, starting with pickled vegetables and achieving economic profitability for family members and seasonal workers. Other farms have developed diverse organic product lines, including syrups and fruits combining with agritourism to create 1 job position, and established recognized brands. **Economic innovations in Czechia focus on precision agriculture, agritourism, and cooperative farming**. Horse farms integrate tourism as an additional income source, while large cooperatives implement precise farming techniques to enhance productivity. Organic farms combine sustainable production with tourism activities to ensure economic viability.

Cultural innovation in Slovenia integrates heritage preservation with economic and educational outcomes. A restored mill now offers flour milling, baking workshops, and educational programs, with plans to open a visitor center and shop. Cultural innovations **in Czechia** center on a farm with an agricultural museum that educates visitors about traditional farming practices, highlighting the importance of cultural preservation.

Key differences: **Slovenian innovations demonstrate a stronger integration of all sustainability dimensions**, combining environmental practices with economic and social outcomes, while also clear job creation for a small number of people. **Czech innovations focus more on targeted and specialised efforts** such as precision agriculture, waste management, and educational programs, prioritizing agritourism and cooperative approaches. Slovenian farms tend to be smaller, more diversified, and multifunctional, whereas Czech farms often adopt more specialized and targeted innovations, **reflecting differences in farm structure, scale, and strategic focus**.

2.5. IMPACTS OF INNOVATIONS

2.5.1. RURAL INNOVATORS

The impacts of rural innovations **in Slovenia** are evident in several areas. Many projects have created jobs in rural communities, addressing issues of unemployment and underemployment. Social cohesion and inclusion have been enhanced, especially for marginalized groups like people with disabilities, immigrants, and older adults. Environmental initiatives, such as waste management and recycling, contribute to sustainability by promoting reuse and reducing waste. Additionally, programs that promote organic farming in schools help improve food self-sufficiency and reduce agriculture's environmental impact.



In **Czechia**, rural innovations have positively impacted social life and public services. Notable examples include municipalities working to stop depopulation, agencies designing sustainable energy projects, and local action groups that improve social life in their regions. Environmental impacts are significant as well, with projects like ecological villages that incorporate sustainable infrastructure, such as waste heating systems and renewable energy. These projects foster environmental awareness and preservation through research and education.

In **Romania**, women-led innovations have brought about transformative community engagement and empowerment. Women have introduced sustainable practices and eco-friendly businesses, fostering community cohesion and challenging traditional gender roles by placing women in leadership. Infrastructure improvements, such as access to clean water and better roads, have also elevated the quality of life. These women-led initiatives promote environmental sustainability through localized food production, organic farming, and natural construction methods, preserving biodiversity and reducing pollution. They also advocate for peasant rights and engage in eco-tourism, blending environmental conservation with economic activity.

Innovations in the field of social sustainability across the three countries have led to significant empowerment and inclusion. In Slovenia, social enterprises provide jobs for hard-to-employ individuals, fostering a culture of support in rural communities. Romania's women innovators engage communities, often challenging traditional gender norms and stereotypes, to foster inclusivity. They advocate for equality and collaboration, creating a supportive network for marginalized groups, including children, the elderly, and the Roma community.

Economic impacts are also substantial. In Slovenia, innovations support local food products and crafts, creating job opportunities and boosting local economies. Czechia has seen the development of enterprises like a pastry shop and a technology incubator, which create jobs and nurture local expertise. Romanian women-led projects emphasize a community-centred economic model, prioritizing community well-being over profit. They focus on creating sustainable livelihoods, supporting rural women's economic empowerment, and providing alternatives to traditional economic growth.

Cultural innovations in all three countries emphasize heritage preservation. Slovenia promotes local heritage through tourism and cultural events, while Czechia has initiatives to preserve traditional crafts like folk embroidery. In Romania, these innovations ensure the continuity of cultural practices, with projects dedicated to maintaining and celebrating rural crafts, traditional buildings, and gastronomy.

2.5.2. FARM-BASED INNOVATORS

In **Slovenia**, farming innovations are highly diversified, integrating environmental, economic, and social dimensions. **Environmental innovations** focus on preserving



farmland, promoting organic and sustainable farming, and raising awareness about healthy, locally produced food. These efforts help maintain rural landscapes under urban pressure and support social inclusion, such as involving disabled individuals in farm activities. **In Czechia**, innovations tend to be more targeted and specialized. Environmental efforts focus on tree planting, waste management, and organic farming with on-site processing, providing seasonal employment for up to 200 workers.

Social innovations in Slovenia emphasize empowerment and inclusion, with farms providing employment and training opportunities for youth, volunteers, and disabled individuals. Social entrepreneurship initiatives contribute to building inclusive communities and changing societal values, fostering greater gender equality. **In Czechia, social innovations emphasize education and community ties**, such as ecological farms promoting agriculture to urban populations and social farming models that strengthen local food systems. Ranches add cultural and recreational value through horse riding activities.

Economic innovations in Slovenia promote financial independence for women and their families and ensure the viability of small farms through niche products like microgreens and pickled vegetables. Farms expand production, restore buildings, and develop tourism services, strengthening rural economies and supporting populations in hilly areas. Economic innovations **in Czechia prioritize agribusiness and agritourism**, with farms integrating precision agriculture, biogas production, and tourism activities to boost productivity and rural incomes.

Cultural innovations preserve local heritage, such as milling traditions, while showcasing the economic viability of small farms through diversified activities (case in Slovenia). Cultural innovations, such as interactive agricultural museums on family farm, focus on preserving and educating visitors about traditional farming practices (case in Czechia).

3. INNOVATION ECOSYSTEMS

3.1. POLITICAL ASPECTS

3.1.1. RURAL INNOVATORS

In **Slovenia**, political support for women innovators is **generally limited to broader government grants and rural development programs**, with few policies specifically targeting women. While a Government Council for Gender Equality exists, it has limited impact on directly supporting female innovators. Women often rely on local municipalities for moral support, occasional financial aid, and premises for community projects. However, the lack of understanding and limited political backing for social enterprises, commonly led by women, is a significant obstacle.



In **Czechia**, a similar council exists, headed by the Prime Minister, but its role is largely focused on **monitoring rather than active support**. Gender equality policies exist, but they have limited practical influence on encouraging or facilitating women-led innovations in rural areas.

In **Romania**, while there are gender equality laws and EU policies aimed at supporting women innovators, their impact is hindered by inadequate institutional commitment. Women also face bureaucratic and gender-based barriers, needing to work harder to establish trust and legitimacy within local administrations. Building community support and relationships with local leaders is crucial for navigating these challenges.

It seems that, **women from all three countries face similar obstacles related to bureaucracy and conservative gender perceptions**. They frequently must go above and beyond to establish trust, proving their capabilities in ways their male counterparts may not need to. Gender biases within local political structures and among male leaders can create additional hurdles, making community alliances and local partnerships essential for women's success. In the face of these challenges, we conclude that women across Slovenia, Czechia, and Romania demonstrate resilience and self-empowerment. They invest in building skills, leverage their networks, and challenge traditional gender norms to sustain their projects and contribute to rural community development. This shared reliance on personal resilience and community support highlights a need for more robust, targeted political policies that actively support women-led innovations in rural areas across these countries.

3.1.2. FARM-BASED INNOVATORS

In both Slovenia and Czechia, political factors play **a dual role in facilitating and hindering female-led innovations in agriculture**. A shared challenge in both countries is the limited financial and policy support for small farms, which disproportionately affects women-led enterprises. CAP measures in both countries offer opportunities for young farmers, including women, to access funding for modernization and environmental innovation. However, these policies often favor larger farms, leaving **gaps in support for diversified, small-scale operations**. CAP measures, while offering general support, also **lack tailored mechanisms to address the impacts of unpredictable weather**, such as financial assistance for crop losses or adapting farming practices to changing climatic conditions.

A key similarity lies in the **lack of political recognition and tailored support for social innovations**, an area where women often lead. Both countries face **bureaucratic and administrative challenges**, such as complex land leasing processes, which particularly impact female farmers managing smaller or inherited farms. Additionally, **resistance to gender-specific measures is evident in both cases**, as seen in Czechia's opposition from agricultural institutions to proposals for women-focused funding in agriculture.



Policy reforms are needed in both countries. Slovenia could benefit from enhanced support for small, disadvantaged farms, streamlined administrative processes, and stronger integration of social innovation policies. Czechia requires reforms in tax and funding structures for disadvantaged farms, more flexibility in CAP measures, and a shift toward inclusive gender-specific policies to better support women farmers. These adjustments would address shared challenges while leveraging each country's unique strengths in governance and rural innovation.

3.2. ECONOMIC ASPECTS

3.2.1. RURAL INNOVATORS

Across all three countries, women innovators often start with personal savings and rely on limited grants, particularly from EU rural development program like LEADER. While there are financial incentives, such as rural development grants and local funding for community-based projects, women generally avoid taking on loans due to concerns over debt and complex application requirements. Family support and community resources play a significant role in sustaining their projects, as direct financial support from state or local sources is often limited.

In **Slovenia**, women benefit from specific economic incentives, such as tax breaks for social enterprises and discounted leases from municipalities, which allow female innovators to use spaces at reduced costs for businesses like reuse centres and volunteer centres. **Czechia**, on the other hand, provides a relatively supportive environment for environmental and social entrepreneurship without explicitly focusing on gender. The Czech government offers sufficient financial support for startups and social enterprises but does not prioritize female-led ventures. **Romania** faces more challenges in terms of accessible funding. Women innovators here largely depend on modest EU grants, often finding local financial aid inadequate. Many Romanian women leverage family resources, using family farms or properties to support their ventures. Additionally, women in local administrations sometimes redistribute funds to support other rural women, emphasizing a community-oriented approach. Although financial profit is not the primary motivator for many Romanian innovators, economic precarity poses challenges, with some women relying on family and community support to maintain their projects.

Across these countries, **social innovations benefit from national and EU grants**, and volunteering initiatives, with support from municipalities and tax incentives for employing hard-to-employ individuals. **Cultural innovations also rely on programs like LEADER** for heritage preservation and tourism development.

It seems that Slovenia provides more targeted economic incentives for women-led enterprises. Czechia offers broader financial support without a gender focus, and Romania demonstrates a greater reliance on family and community resources due to limited financial aid from public sources. This contrast highlights Slovenia's relative



advantage in economic conditions specifically supporting female innovators, whereas Czech and Romanian women face more general economic constraints and often depend on alternative resources to sustain their innovations.

3.2.2. FARM-BASED INNOVATORS

In **Slovenia**, economic incentives such as start-up financing for young farmers under the age of 40 and subsidies through the Slovenian CAP framework are vital in supporting female-led innovations in agriculture. Municipal-level initiatives, such as small grants for cultural preservation, youth engagement, or environmental projects, also provide localized support. Additionally, CLLD/LEADER funds encourage smaller-scale projects. In **Czechia**, CAP-related support, including grants for organic agriculture and renewable energy innovations, offers economic incentives. Specific funding is also available for purchasing machinery, equipment, and real estate, which can facilitate economic innovations on farms. European programs like Erasmus+ and the European Solidarity Corps further enable social innovation through volunteering projects, although these are less directly tied to agriculture.

Despite these similarities, access to financial incentives and resources differs between the two countries. In Slovenia, the combination of CAP subsidies, municipal tenders, and LEADER funds creates a more diverse and accessible funding landscape for women. Czechia, while benefiting from CAP support, offers fewer localized incentives, which may limit the ability of women to leverage small-scale funding opportunities. Additionally, **reliance on family resources**, such as family farms, real estate, or personal savings, to establish or expand their initiatives, is a common facilitator in both contexts, but it also **highlights an economic vulnerability**: women without access to such resources may find it harder to start or sustain innovative projects. Expanding targeted funding programs and ensuring equitable access to subsidies and grants could significantly enhance the viability of female-led innovations in both Slovenia and Czechia.

3.3. SOCIAL ASPECTS

3.3.1. RURAL INNOVATORS

Local communities in **Slovenia** are a crucial source of support, providing emotional backing, labour, and informal market access. **Women with strong social networks, such as associations or rural development groups, generally benefit from greater access to knowledge, markets, and funding.** Similarly, in **Czechia**, social networks play an important role, with women creating new social connections, increasingly through digital methods, to advance their projects. However, lingering paternalistic norms in some areas mean that male partners' support is essential; some women have even experienced relationship challenges due to their economic success and ambition.



Romania's rural areas face additional barriers rooted in historical and cultural contexts. The transition from communism to a market economy has not translated into increased gender equality, with traditional gender roles resurfacing, often reinforced by conservative societal influences. Despite these barriers, Romanian women benefit from extended family networks, which provide crucial emotional and practical support. Many women aim to transform their communities, engaging in projects that support marginalized groups and foster social sustainability, positioning themselves as change agents challenging systemic issues.

We found that across all three countries, women's role in social innovations is particularly impactful. **Many women lead social enterprises focused on inclusion, education, and health services, motivated by their caregiving roles to improve community welfare.** In cultural innovations, women are often seen as custodians of heritage, actively working to preserve local traditions and knowledge. Community support and social networks are essential in this endeavour, as women draw on collective resources to sustain their cultural initiatives.

We conclude that **rural typology** also plays a role, especially in Czechia, where areas near large cities perceive gender roles more equally, while peripheral regions maintain traditional, paternalistic norms. In Romania and Slovenia, similar social challenges span rural areas more uniformly, reflecting the continued influence of conservative gender expectations across different community types.

3.3.2. FARM-BASED INNOVATORS

Farm managers are predominantly male, reflecting traditional gender roles. In **Slovenia**, none of the interviewed women reported difficulties in gaining recognition from farm employees, suggesting that gender-based barriers within operational contexts may be less pronounced. Social networks provide significant support, enabling women to pursue social farming and cultural innovations. These innovations often emphasize community-building and aesthetic aspects of rural areas where women are key contributors. However, cultural norms that associate farm ownership and management with men still **limit broader recognition of women as primary innovators**. Women often take on tasks related to accounting, processing, agritourism, and public engagement, showcasing their influence beyond traditional farming activities.

In **Czechia**, the situation is similar, with men dominating as managers of conventional agricultural businesses. Women often take on **middle-management roles**, focusing on areas like accounting, marketing, agritourism, and collaboration with the public. These roles, while impactful, reflect a division of labor that aligns with traditional gender expectations. Women in Czechia also drive innovations in non-traditional economic methods and social farming, emphasizing community-oriented approaches. They are often the initiators of cultural and educational events on farms, reinforcing their role in rural community development. However, men tend to focus on technological innovations,



while women prioritize social and aesthetic aspects, reflecting a gendered division in innovation priorities. This divergence can sometimes hinder collaboration and resource allocation for women-led projects.

Both countries share **similarities** in gendered divisions of labor and innovation. In Slovenia, women benefit from robust social networks and report fewer workplace recognition issues, suggesting a more supportive social environment. In Czechia, while women also contribute significantly, cultural norms and male dominance in management roles pose greater challenges to their leadership in rural innovations. In both contexts, social farming and cultural innovations are areas where women excel, highlighting their role as community builders. Promoting women's leadership in farm management and technological innovation, alongside integrating social farming into mainstream strategies, is crucial.

3.4. TECHNOLOGICAL ASPECTS

3.4.1. RURAL INNOVATORS

In Slovenia, Czechia, and Romania, **technological factors generally serve as supportive tools rather than primary drivers** for women-led rural innovations. Across these countries, many women entrepreneurs operate on a small scale, favouring low-tech, accessible, and practical solutions. **Their innovations often prioritize sustainable, traditional methods, such as handmade products and community-based services, rather than relying heavily on high-tech advancements.** Digital communication tools and reliable broadband access are widely available in rural areas, enabling women to connect with communities and networks, though the technology itself is seen as a supplement to their initiatives rather than the core of their innovation.

In **Slovenia**, access to **digital infrastructure supports women's work but doesn't drive it**; they rely on accessible, low-tech solutions to achieve their goals. Similarly, in **Czechia**, there are no significant technological barriers reported, and **the key factor is access to information rather than high-tech resources.** **Romania** highlights the importance of communication technologies, such as social media and instant messaging, which are essential for building networks and connecting with both local and trans-local organizations. Some Romanian women also make innovative use of technology through digital storytelling, photography, and video, which allow them to document and share their sustainable practices. Additionally, hands-on skills, such as building eco-friendly homes with straw bale construction, reflect an emphasis on self-sufficiency and resilience. These projects demonstrate adaptability, with women developing technical skills and overcoming budget constraints to pursue environmentally friendly living.



3.4.2. FARM-BASED INNOVATORS

While access to technology and digital infrastructure is generally sufficient, there is an underutilization of existing tools. For example, in Czechia, state-organized databases are often neglected in practice, limiting their potential impact. In Slovenia, many women already utilize technologies such as greenhouse modernization, automated irrigation systems, renewable energy, and social media marketing to improve productivity and expand market reach. However, some women engaged in organic or biodynamic farming express reluctance to adopt certain technologies, aligning with their farming philosophy. It was also mentioned in Czechia that **women tend to focus less on technological solutions and more on scientific and social innovations**, leveraging their relatively high levels of education. This divergence from technological innovation can hinder their ability to integrate advanced systems into farm operations, despite available resources. Both countries could benefit from targeted training and support programs to encourage broader adoption and effective use of technological resources, ensuring women can fully integrate these tools into their innovation journeys.

3.5. ENVIRONMENTAL ASPECTS

3.5.1. RURAL INNOVATORS

In all three countries, women lead efforts to protect biodiversity, educate young generation (promote organic farming via organic school gardens), and encourage eco-tourism, often integrating environmental awareness into community education.

Innovators in **Slovenia** particularly focus on water resource protection, and eco-tourism, while those near urban areas prioritize reuse initiatives to mitigate environmental impact. Remote rural areas often see women's innovations centred on sustainable land use and conservation.

In **Czechia**, a key concern for women is the degradation of rural landscapes caused by industrial, quantity-driven agriculture. Climate change also poses a significant threat, with increasing weather extremes impacting rural life and prompting a need for resilient environmental practices.

Romanian women, on the other hand, frequently express a strong commitment to environmental sustainability, viewing development as potentially conflicting with traditional, community-oriented values. This perception reinforces their dedication to sustainable living, grounded in a belief that environmental health is essential for community well-being and future generations. Romanian women also emphasize resilience in the face of environmental threats, engaging in initiatives like natural construction, biodiversity education, and localized food systems. Their innovations often reflect a communal approach, valuing collective over individual benefits.



3.5.2. FARM-BASED INNOVATORS

Women in **Slovenia** demonstrate a strong inclination toward environmental issues, integrating sustainable practices into all types of innovations they develop. They often adopt sustainable farming methods such as permaculture, biodynamic agriculture, and regenerative practices, with a particular focus on preserving agricultural land, protecting endangered species, and promoting biodiversity. This holistic approach to farming goes beyond economic and social innovation, combining environmental principles with practical applications. Many women balance ecological principles with practical constraints, such as choosing organic methods without seeking formal certification. Similar in **Czechia**, while conventional agriculture remains dominant, it is gradually incorporating ecological principles. Women's environmental innovations often stem from personal beliefs, health considerations, and environmental awareness. These motivations drive the adoption of practices that aim to improve the natural habitat and address environmental degradation.

Comparatively, Slovenian women appear more deeply integrated into holistic and preservation-oriented approaches, balancing sustainability with practical farming needs. Czech women show a growing influence on integrating ecological principles into conventional farming but face greater systemic resistance. Lowland areas in both countries, more sensitive to climate change, drive the adoption of practices addressing soil preservation and water management. Women in mountainous or peripheral regions often focus on biodiversity and habitat protection. Both countries could enhance support for environmental innovation through targeted programs addressing regional climate challenges, certification simplifications, and incentives for integrating sustainability across farming types.

4. MAINSTREAMING ACTION

4.1. SCALING UP

4.1.1. RURAL INNOVATORS

In **Slovenia**, rural innovations led by women have influenced policies and legislation more than farming innovations. Notable examples include the impact of reuse centers on waste management legislation and social entrepreneurship policies, as well as the inclusion of organic school gardens in the Action Plan for Organic Farming 2020–2027. Efforts like regional collective branding have shaped policies on agricultural cooperation, consolidating fragmented brands into regional ones. Additionally, shifts in societal norms, such as promoting volunteerism, solidarity, and gender equality, have emerged from women-led initiatives.

In **Czechia**, no specific legal or policy measures have been mentioned. While some progress has been made in laws regarding maternity and childcare, broader structural



support for women-led innovations is absent. Discussions about domestic violence and support for victims reflect a social rather than rural or innovation-focused approach. Overall, there is limited political commitment to advancing women's contributions through legislative changes or rural development strategies.

Rural innovators in Romania stand out in terms of political activism. Around half of the interviewed women actively participate in policy-making through roles such as CSO representatives, local officials, or gender experts. Their advocacy efforts include advancing laws on mediation and domestic violence, contributing to Romania's National Strategy for Sustainable Development 2030, and promoting gender budgeting within the National Strategic Plan. However, the lack of political will and insufficient funding for CSOs limit the potential for significant legislative change.

4.1.2. FARM-BASED INNOVATORS

Farm-based innovators in Slovenia and Czechia demonstrate less political activism compared to rural innovators in other sectors, with their influence on systemic changes often limited to legislative frameworks already in place.

In **Slovenia**, systemic support for women on farms is partially facilitated through **well-established laws regarding maternity leave and childcare for preschool-aged children**. These policies offer a foundation for women to balance work and family life. However, women in remote rural areas face additional challenges, such as limited access to childcare services due to geographic isolation. Pension systems for farm women, a historical issue in Slovenia, remain a significant concern. Many women on farms were previously underinsured or not insured at all, and this area still requires targeted policy reform to ensure equitable social protection.

In **Czechia**, no significant legal or policy measures specifically supporting rural women have been introduced. The primary exception is laws concerning motherhood and childcare, which, as in Slovenia, offer foundational support. While there have been improvements in reducing the gender pension gap by adding child support for each child, broader systemic policies addressing the unique challenges of farm-based innovators are lacking. Additionally, social support for disadvantaged women, including farm women, is often provided through non-governmental organizations, rather than through government-led initiatives.

Farm-based innovators in both countries benefit from established maternity and childcare policies, but these measures are not tailored specifically to the unique challenges of women in farming. **Slovenia's historical gaps in pension systems for farm women highlight ongoing systemic inequities** that require attention. In Czechia, the absence of targeted legal or policy measures supporting women in agriculture reflects a broader lack of political focus on gender issues in rural development.



4.2. SCALING OUT

4.2.1. RURAL INNOVATORS

Scaling out is more pronounced among rural innovators compared to farm-based innovators. In Slovenia, **environmental innovations have seen the most geographical replication**. In Czechia, geographical replication is generally less emphasized, as **women are often not interested in expanding their businesses geographically**. Instead, they focus on sharing their experiences and know-how through social networks and informal mentorship, acting as role models for other women regardless of the field. Organizations like the Czech Union of Conservationists facilitate the transmission of environmental good practices, and competitions such as the "Village of the Year" provide platforms for sharing social and cultural innovations. Economic innovations, like the sale of know-how to other women, further demonstrate how women support the spread of innovative practices without geographical expansion. In **Romania**, women-led innovations are characterized by extensive **networking**, which facilitates geographical replication and adaptation across rural and international contexts. Romanian women collaborate with local and international organizations, sharing best practices and fostering gender equality and rural development. Networks such as the Longo Mai Cooperative and Via Campesina highlight how women adapt and replicate innovations to support agroecological models and enhance resilience. Additionally, the geopolitical crisis in Ukraine prompted Romanian women to scale out their initiatives, supporting affected communities through transnational efforts, such as resource sharing and entrepreneurship training.

4.2.2. FARM-BASED INNOVATORS

Scaling out in farm-based innovations remains limited, as many **women focus on sustaining local operations rather than expanding geographically**. Female farmers typically focus on improving their immediate farming environments and leveraging their expertise to enhance local resilience and productivity. However, their success often serves as **a source of inspiration for others**. By acting as role models, these women **indirectly** contribute to the spread of innovation through example rather than direct replication.

4.3. SCALING DOWN

4.3.1. RURAL INNOVATORS

In **Slovenia**, women benefit from structured capacity-building programs and funding mechanisms, including municipal funds and LEADER/CLLD initiatives, which support the implementation of local innovations. These programs are complemented by tailored



workshops in fields such as social entrepreneurship and food processing, helping women sustain and expand their projects while leveraging local resources effectively.

Similarly in **Czechia**, capacity-building programs for women-led innovations are offered through district economic chambers (in Slovenia, this is less common) and LEADER local action groups, which provide consulting and support for small-scale rural projects. However, the scope of these programs is limited. Women often rely on informal networks and mentorship for capacity-building, focusing on knowledge exchange rather than structured growth.

In **Romania**, scaling down is more frequent due to limited funding, bureaucratic hurdles, and societal pressures. Some women make deliberate choices to stabilize rather than grow their initiatives, prioritizing sustainability and well-being over expansion. Addressing these constraints could better support women-led innovations across all three countries. In all countries, we did not find that the type of rural area influences access to funding, but to some extent the sustainability area of their work influences the open tenders they applied for.

4.3.2. FARM-BASED INNOVATORS

In **Slovenia**, the CAP plays a crucial role, with specific initiatives like the Young Farmer Programme offering financial incentives and training for women under 40. Additionally, CAP support programs for organic farming, supplementary activities on farms, etc. and include tailored training courses organized by the Chamber of Agriculture and Forestry and different associations like the Slovenian Permaculture Association.

Many women further enhance their agricultural expertise through specialized training in areas like fruit processing, herbalism, and milling. One example is participation in European Innovation Partnership (EIP-AGRI) projects, which combine funding with technical training to foster new ideas.

In **Czechia**, farm-based innovators have access to support through the Agrarian Chamber of the Czech Republic and the Association of Private Agriculture, which operate at national and local levels. However, these organizations generally do not address gender-specific needs, focusing instead on **general agricultural support**.

4.4. SCALING IN

4.4.1. RURAL INNOVATORS

In Slovenia, local-level support and mutual cooperation among women are strong, with some evidence of women influencing organizational values. Czechia offers broad institutional structures but lacks targeted support for women-led innovations, while



Romania faces challenges with bureaucratic rigidity and insufficiently adapted training programs. Romanian women push for systemic reforms, emphasizing practical support and community-driven initiatives.

4.4.2. FARM-BASED INNOVATORS

In **Czechia**, Agricultural consulting is disseminated by the **Agricultural Union of the Czech Republic and a number of private consulting firms**. Innovations in agriculture are spread mainly by the Czech University of Life Sciences, Mendel University in Brno, the University of South Bohemia, dozens of agricultural technical schools and research institutes of the Ministry of Agriculture. AKIS is not known in Czechia, neither in Slovenia.

Farm advisory services in **Slovenia** are primarily provided by the **Chamber of Agriculture and Forestry of Slovenia**, a public institution with an extensive network of advisors operating at national (headquarters in Ljubljana), regional, and local levels. While they offer free advisory services and some paid ones, their focus is largely on young successors of family farms. As a result, **innovative women farmers often fall outside their primary scope of support**. Additionally, Slovenia has a **very limited number of private advisors**, making it challenging for women-led innovations to access tailored advice and expertise outside the public advisory system. This scarcity further emphasizes the need for more inclusive and specialized support mechanisms for women in agriculture.

4.5. SCALING DEEP

4.5.1. RURAL INNOVATORS

In all three countries, women-led innovations have influenced societal attitudes toward gender equality, though the scope and depth of these changes vary. In **Slovenia**, the impact is localized and gradual, with women challenging stereotypes but facing persistent barriers, although formally there should be equality. **Czechia** experiences slower changes, with gender roles more entrenched in traditional rural areas, though urbanized regions show greater progress. Gender equality is increasing primarily as a result of societal changes, and innovative women can play a role in this process. On the other hand, it seems that typically male and typically female professions still exist both at the level of society as a whole and at the level of individual enterprises. The change may be that with the transition to the post-productive phase, the importance and prestige of women's (soft) activities increases. **Romania** stands out for its transformative local-level impact, where women actively reshape leadership dynamics and foster inclusivity. For instance, women leaders in rural Romania have gained respect and influence, with some becoming trusted advisors for local authorities. These changes create



opportunities for future generations of women to enter public office and advocate for gender equality more effectively.

4.5.2. FARM-BASED INNOVATORS

In **Slovenia**, while societal norms are gradually changing, women often experience **barriers rooted in perceptions of youth and inexperience rather than gender itself**. However, women find it easier to connect and collaborate with other successful female entrepreneurs, fostering a sense of mutual support. Continued efforts, such as empowerment programs and advocacy for gender equality in agriculture, are necessary to sustain and accelerate these changes. Women have leveraged competitions and media campaigns to challenge stereotypes and inspire others.

In **Czechia**, women as heads of agricultural enterprises remain rare, but they play significant roles in middle management and are gradually challenging traditional norms. Innovative female farmers tend to focus on environmentally friendly practices rather than conventional agriculture, reflecting broader societal shifts toward sustainability. Social and economic innovations, such as agritourism and cultural or educational initiatives, demonstrate how women are redefining the functions of agriculture beyond production.

However, **combining work and family life remains a fundamental challenge** for innovative women, highlighting ongoing societal barriers.

5. SUMMARY AND HIGHLIGHTS

Important similarities among rural innovations in observed three countries:

- **Stronger focus on social and environmental impact** in all three countries (focus on social and environmental values, community support, gender equality, and inclusion of marginalized groups).
- **Educational initiatives:** Several innovations across all three countries incorporate educational aspects and initiatives that encourage knowledge sharing in rural areas.
- **Diverse legal structures of innovations:** Each country “utilizes” a variety of legal forms to achieve their goals, including NGOs, social enterprises, and cooperatives. This variety demonstrates a flexible approach to legal frameworks to support social and environmental objectives.
- **Emphasis on local culture and heritage:** Innovations in all observed countries focus on preserving and promoting local culture.
- **Several innovations to support disadvantaged groups** (to support disadvantaged or marginalized groups, immigrants, women, people with



disabilities, people with limited access to the labour market ...), particularly in Slovenia and Romania.

- **The education level of rural innovators is well above average**, dominated by tertiary (higher education). A slightly smaller discrepancy was observed among Czech female innovators.

Identified differences among rural innovations in observed three countries:

- **Legal and institutional diversity:** **Slovenia** leans heavily on NGOs and social enterprises, **Czechia** includes state institutions and public organizations, but **Romania** shows a prevalence of civil society organizations (CSOs) and local action groups (LAGs), often with minimal formal legal structures and sometimes with no formal organizational structure (but focus on community-driven goals).
- **Innovations scope and scale differ:** **Czechia** is included with larger projects with more employees indicating higher levels of organization and potential government support, but **Slovenian and Romanian innovations generally involve smaller teams or are managed by individuals** (reflecting more grassroots approach).
- **Gender and political participation:** **Romania** has a notable emphasis on gender equality, but this focus is less prominent in Slovenian and Czech initiatives.
- **Duration of presented innovations differ:** **Czechia** is included with some of the “well established” projects, (from the early 1990s). **Slovenian and Romanian innovations** are relatively “young”, mostly established after 2000.
- **Sectoral emphasis:** **Czechia** shows a balanced focus across environmental, cultural, and social sectors. **Slovenia** tends to emphasize environmental sustainability along with social inclusion. **Romania** leans more toward social innovations, with particular attention to civic engagement, gender equality, and supporting rural women.

Farming innovations in observed two countries – Slovenia and Czechia:

- Identified differences in the **age structure** of farm-based innovators, with Czech female innovators finding themselves in a more advanced life stage .
- The **education level** of farm-based innovators is also well above average, strongly dominated by tertiary (higher) education.
- We also find that farm-based innovators in Slovenia are less directly linked to primary agricultural production, and that innovative practices are often linked to other **complementary activities on the farm** (the farm serve as a “starting point” for the development of new innovative practices).
- In Slovenia family farms strongly prevail while in Czechia as farm innovations are mostly cooperatives, limited companies (Ltd.) and NGOs.



Motivation

In Slovenia, rural-based innovators are driven by a mix of desire for professional independence, financial stability, and a harmonious work-life balance, as well as a passion for activities that contribute to social or environmental sustainability. A strong connection to local communities and rural areas further inspires these innovators. Similarly, in the Czech Republic, women often seek an alternative to urban lifestyles, focusing on creating a healthy and economically sustainable future for their families while pursuing meaningful and flexible work. In Romania, motivations center on community engagement, with women often prioritizing collective well-being and creating spaces for empowerment and social support. **Farm-based innovators share in both countries overlapping drivers**, such as family traditions, professional growth, and environmental responsibility, often blending agriculture with educational and social objectives to promote sustainable rural development.

Constraints and favourable conditions

Rural innovators face challenges such as community resistance to female leadership (highlighted in Romania), limited services and infrastructure (Czechia), and unstable financing or bureaucratic barriers (Slovenia). Competition in agriculture production together with positioning with (local) products seems to be a common important obstacle in Slovenia and Czechia. Remote rural areas add challenges like long distances and poor infrastructure, while suburban areas see conflicts over land use.

Regarding favourable conditions, family and community support are crucial across all countries, offering emotional, logistical, and financial assistance. Access to family-owned land or infrastructure provides a strong foundation in agriculture. Urban proximity aids market access, while remote areas foster organic agriculture and agritourism.

Idea and preparations

In Slovenia, rural women innovators often transition into new careers later in life, driven by shifts in personal values and leveraging prior experiences. They focus on skill-building through education and international examples, emphasizing sustainability, social inclusion, and local branding. In Czechia, women adopt cooperative approaches, prioritizing collaboration, social innovation, and community-focused solutions over competition. Romanian women, inspired by international experiences, channel their efforts into creating sustainable community-based projects through robust networks and resource mobilization. Farm-based innovations reveal women in Slovenia modernizing inherited farms with a focus on sustainability and organic practices, while in Czechia, social farming and improving agricultural perceptions are key.

Concretisation of innovations

In Slovenia, **rural innovations** span diverse sectors, including sustainable product development, educational programs, and social services like personal assistance and reuse centers that support marginalized groups. Economic initiatives focus on regional



branding, local entrepreneurship, and consulting, while cultural innovations enhance rural tourism and heritage preservation. In Czechia, efforts prioritize environmental preservation, social services like ecological kindergartens, and local entrepreneurship through incubators and action groups. Romania emphasizes eco-friendly businesses, community engagement, and projects empowering women, challenging traditional gender roles while preserving heritage through gastronomy and crafts.

Women in **agriculture** in Czechia and Slovenia drive innovations that combine environmental care, social inclusion, and economic progress. Women also play a key role in educational activities, such as organizing farm excursions and raising public awareness, thereby improving the public perception of agriculture. Economically, women are increasingly active in marketing, direct sales, and the development of agricultural services. Slovenian innovations demonstrate a stronger integration of all sustainability dimensions, while Czech innovations focus more on targeted and specialised efforts such as precision agriculture, waste management, and educational programs, prioritizing agritourism and cooperative approaches. Slovenian farms tend to be smaller, more diversified, and multifunctional, whereas Czech farms often adopt more specialized and targeted innovations, reflecting differences in farm structure, scale, and strategic focus.

Impacts of innovations

Innovations in all three countries have successfully created jobs and reduced unemployment, particularly in rural communities, while fostering social cohesion and inclusion for marginalized groups. Environmental sustainability is a shared focus, with initiatives promoting organic farming, waste management, and renewable energy to preserve natural resources and reduce environmental impacts. Economic innovations prioritize boosting local economies through sustainable practices, small businesses, and community-centered approaches. Cultural heritage preservation is central, with projects in all three countries emphasizing traditional crafts, gastronomy, and rural practices, blending tradition with modern rural development to ensure continuity and community empowerment.

Innovation ecosystem

Political support for rural and farming innovations led by women in Slovenia, Czechia, and Romania remains limited, with broad policies often failing to address gender-specific needs. **Resistance to gender-specific measures is evident** in CAP and other policies in all three countries. Social innovations, often led by women, lack sufficient political recognition and tailored support, particularly in Slovenia and Czechia.

The **economic aspects** of rural and farming innovations for women in Slovenia, Czechia, and Romania reveal both opportunities and challenges. Women often rely on personal savings, family resources, and EU programs like CAP and LEADER to fund their projects, avoiding loans due to debt concerns and complex requirements. Especially in farming, reliance on family resources, such as family farms, real estate, or personal savings, to establish or expand their innovations, is a common facilitator, but it also



highlights an economic vulnerability: women without access to such resources may find it harder to start or sustain innovative projects.

Across all three countries, **social** networks and community support are vital for women's success, enabling access to knowledge, markets, and emotional backing. Women lead social and cultural innovations, focusing on education, inclusion, and heritage preservation, often leveraging caregiving roles to improve community welfare. Slovenia offers a relatively supportive social environment with fewer reported barriers in operational contexts, while Czechia sees more pronounced paternalistic norms, particularly in peripheral regions. Romania faces the most significant challenges due to entrenched traditional roles, but extended family networks provide critical support. In agriculture in Slovenia and Czechia, women often take on roles in accounting, agritourism, educational activities on farms and social farming, emphasizing community-oriented and aesthetic innovations, while **men dominate technological and managerial aspects**.

The **technological aspects** of rural and farming innovations in Slovenia, Czechia, and Romania reveal a reliance on accessible, low-tech, and practical solutions rather than high-tech advancements. Digital tools, such as social media and broadband, play a supportive role, enabling women to connect with networks, share practices, and market their products, but usually they are not central to their innovations.

The **environmental aspects** of rural and farming innovations led by women in Slovenia, Czechia, and Romania highlight that a strong commitment to environmental sustainability, biodiversity, and often integrating environmental awareness into community education. Women across all three countries promote organic farming, eco-tourism, and environmental education, integrating these efforts into community initiatives. Slovenian women focus on holistic sustainability practices, such as permaculture and regenerative farming, with particular attention to water resource protection and eco-tourism. Czech women emphasize combating the environmental impacts of industrial agriculture and climate change, gradually incorporating ecological principles into conventional farming despite systemic resistance. Romanian women prioritize resilience and sustainable living, valuing community-oriented approaches like natural construction, biodiversity education, and localized food systems. Across all three, women's environmental innovations balance practical constraints with ecological principles, underscoring the need for targeted programs to support sustainable practices and address region-specific environmental challenges.

Mainstreaming actions

Replication (scaling out) and scaling up innovation is **noticed specially among rural innovators and less present among farming innovators**. Scaling out in farm-based innovations remains limited, as many women focus on sustaining local operations rather than expanding geographically. However, their success often serves as a source of inspiration for others. By acting as role models, these women indirectly contribute to the spread of innovation through example rather than direct replication. In Romania, scaling



down is more frequent due to limited funding, bureaucratic hurdles, and societal pressures. Some women make deliberate choices to stabilize rather than grow their initiatives, prioritizing sustainability and well-being over expansion. **Rural innovators in Romania stand out in terms of political activism**, highlighting transformative local-level impact, where women actively reshape leadership dynamics and foster inclusivity.

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MEDITERRANEAN MACROREGIONAL REPORT

COMPARATIVE ANALYSIS

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ACRONYMS & ABBREVIATIONS

AKIS	Agricultural Knowledge and Innovation Systems
CAP	Common Agricultural Policy
LAG	Local action group



INTRODUCTION

This report presents the main findings from interviews with 40 women innovators in rural Italy and Spain – 20 from each country: half of them farm-based, the other half working on different projects related to rural sustainable development.

For the scope of the study, we classified these women per sustainability dimensions, that is, whether their operation primarily concerned environmental (EN), social (S), economic (EC), or cultural (C) sustainability, and by their location – remote rural (RR), rural village (RV) or rural location close to a city (RC).

Tables 1 and 2 provide an overview of the interviewed women and their projects. More specifically, Table 1 is about rural innovations, and Table 2 is about farm innovations.

Table 1. Rural innovations in Italy and Spain

Type of innovation	Sustain- ability	Location	Age	Education	Legal form	Employees including owner or manager
RURAL INNOVATIONS, ITALY						
Tailoring lab and shop using sustainable fabrics	EN	RR	35	University	Sole proprietors hip	2 (family members)
Network, Guidebook about local organic farmers, shop and event venue	EN	RC	39	University	Non-profit association	3 employed workers, 12 volunteers
Upcycling tailoring lab	EN	RV	44	University	Sole proprietors hip	1 +seasonal workers
Mountain hut	S	RR	49	University	Company	5 workers + up to 10 seasonal workers
Summer camps for children and young adults	S	RC	40	University	Non-profit association	3
Women collective/association	S	RV	Different ages ³	Different education	Non-profit association	More than 40 women are part of the association; more than 150 women part of the informal network related to the association

³We interviewed 4 women from this association. Their ages ranged from about 25 to more than 50 years.



Type of innovation	Sustain- ability	Location	Age	Education	Legal form	Employees including owner or manager
Creativity lab	EC	RR	30	University	Sole proprietors hip	2 (family members)
Food processing factory	EC	RC	43	High school	Company	4 workers + 7 seasonal workers
Network of local farmers, artisans and tourist operators	EC	RV	26	University	Non-profit association	More than 10 business are involved, about half are managed by women
Story.-telling and videos about small local farms	C	RR	29	University	No legal form/volunteering project	2
RURAL INNOVATIONS, SPAIN						
Production and commercialization of worm casting	EN	RC	33	Biology degree and master's degree in agri-food sciences.	Autonomou s enterprise	4 (including woman innovator and her husband)
Production and distribution of products made with integrated fungus and EVOO (extra virgin olive oil)	EN	RV	N/A	Botany degree	Autonomou s enterprise	1
Technical solutions for extensive livestock management	EN	RR	37	Graphic designer degree	Community of property with her sister	2
Dehydrated fruit and vegetables through sustainable guidelines	EC	RV	45/50	Economic degree	Autonomou s enterprise	2 (family members)
Handmade textile techniques made with residues of banana trees	EC	RR	59	Philosoph y and cultural managem ent degree	Autonomou s enterprise	1 (self-employed)
Craft beer in Spain	EC	RR	54	Bachelor' s degree in internatio nal Secretaria t	Autonomou s enterprise	2 (family members)



Type of innovation	Sustain- ability	Location	Age	Education	Legal form	Employees including owner or manager
Elderly care facility	S	RV	48	Social worker degree	Autonomous enterprise	22 workers
Farm school that promotes educational leisure	S	RC	40 approx.	University degree in the social field	Autonomous enterprise	3 workers and outsourced services (marketing)
Management model for rural tourism destinations	S	RR	N/A	Master's degree in Tourism management	Autonomous enterprise	1 and outsourced services
Theatrical routes for visitors in rural areas	C	RV	41	Degree in Art History and postgraduate in didactics. Continuous training in communication skills and actress.	Autonomous enterprise	5

Table 2. Farm innovations in Italy and Spain

Type of innovation	Sustain- ability	Location	Age	Education	Legal form	Dimension of the farm (ha)	Employees including owner or manager
FARM INNOVATIONS, ITALY							
Extraction of birch sap	EN	RR	31	High School	Family farm	15 hectares	1 +help from family members
Biodynamic farm	EN	RC	33	University	Family farm	2 hectares	1 + support of other family members
Upcycling project with farm waste	EN	RV	40	University	Family Farm	14 hectares	2 (family members)
Farm cooperative and restaurant	S	RR	45	University	Agricultural coop.	2 and a half hectares	4 workers and 2 volunteers



Type of innovation	Sustain- ability	Location	Age	Education	Legal form	Dimension of the farm (ha)	Employees including owner or manager
Farm kindergarten	S	RC	43	High School	Family farm	3 hectares	4 + occasional (paid) support of other professionals + volunteers and help from family members
Farm kindergarten + donkey breeding with an anti- speciesist approach	S	RV	27	University	Family farm	10 hectares	2 (family members)
Goat and sheep breeding + traditional cheese making	EC	RR	42	High School	Family farm	---	2 +1 or 2 volunteers/woof er seasonally
Enhancement of traditional local crops + social farming	EC	RC	50	High school	Family farm	33 hectares	3+ a psychologist hired for some social activities + seasonal workers
Regenerative agriculture +agritourism+ processing products	EC	RV	NA	High school	Family farm	60 hectares	3 (family members) + several other workers/season al workers
Enhancement of traditional local crops, diversification (processing products+ tourism activities)	C	RR	27	University	Family farm	20 hectares	1 with support from her partner and woofers + seasonal workers
FARM INNOVATIONS, SPAIN							
Innovative technologies aimed to fight the drought's effects at the olive grove	EN	RC	N/A	BA	Family Farm	44hA	N/A
Eco-wrapping for home use and eco- agrotourism experiences.	EN	RR	N/A	Master	Family Farm	5700m2	N/A



Type of innovation	Sustain- ability	Location	Age	Education	Legal form	Dimension of the farm (ha)	Employees including owner or manager
Traditional professions such as extensive livestock production, manual production of cheeses and yogurts that adopt a modern and personalised approach	EN	RC	N/A	BA	Cooperativ e ventures	300hA	3 workers
This business combines education about her ecological farm with promotion of the cultural and gastronomical local patrimony	S	RV	54	cheese master course	Family Farm	115	6 workers (including her, her husband, son, and daughter).
Educational Programmes through neuroscience	S	RC	39	BA	Cooperativ e ventures	16hA	6 workers
Creation of jobs and quality services linked to the environment, leisure and personal care in the valley	S	RR	N/A	BA	Cooperativ e ventures	building	3 workers
Combination of traditional systems with innovative practice for cheese production	EC	RC	29	Professio nal training in sales and livestock	Family Farm	N/A	2 workers
Animal genetics and breeding program management	EC	RR	N/A	BA	Self- employed individual with cooperative ventures	N/A	5 workers (including her and her partner)
Use of old horses and other animal for regenerative agriculture as a basis for regenerating the soil	EC	RC	N/A	unfinished BA	Self- employed individual with cooperative ventures	owns 25ha, buts rents 300 more	2 (family members)



Type of innovation	Sustain- ability	Location	Age	Education	Legal form	Dimension of the farm (ha)	Employees including owner or manager
Floating classroom with educational workshops	C	RC	45	BA	Family	33m (Boat)	7 workers

Tables 1 and 2 show that the Italian and Spanish innovators are similar in age distribution, although some of the women interviewed in Italy are slightly younger.

Many of them also have university degrees – education levels are generally high in both countries. Most of the rural businesses are sole proprietorship/autonomous enterprise. In Italy, some are non-profit associations. For what concerns farm innovations, most of them are family farms, some are partnerships (in Spain) and one is an agricultural cooperative (in Italy).

In the following text we first provide a brief overview of the macro-regional context of Italy and Spain. For detailed country-level information, including methods considerations, we refer the reader to Deliverable 3.3 of FLIARA project “Women-led Innovations in Agriculture and Rural Areas, Lessons Learned Report and Fact Sheets on Female Innovations”, which is also available on FLIARA web page (Sivini et al 2024).

We thereafter report the findings from the interviews. Under each heading we report the analysis of the of the interviews with the 20 rural innovators in both countries, then the 20 farm innovators in both countries, noting similarities and differences. We pay particularly attention to the different sustainability dimensions and types of rural areas.

1. THE MACROREGIONAL CONTEXT

Italy and Spain are both Mediterranean countries based in the South of Europe, with high percentages of their territories considered as “rural”.

In **Italy**, according to EUROSTAT data (2022), 63.8 percent of the municipalities are classified as rural areas, with 17.1 percent of the population residing in these areas.

Italy is characterized by a clear territorial gap between southern and northern regions. The employment rate clearly shows this territorial divide, with 61.5% in the North and 48.2% in the South in 2023. The situation is even worse when looking at the female employment rate, which was 62.3% in the North and only 36% in the South. Data about the role of women in rural area and particularly about women entrepreneurs and women-led innovation are very scarce.

In **Spain**, according to the data of the Ministry of Agriculture, Fisheries and Food, rural areas cover 84% of the country's surface area, with 16% of the population registered in



rural municipalities. The Spanish Autonomous Communities with the highest percentage of the population registered in rural municipalities, between 30% and 50%, are Extremadura, Castilla-La Mancha, Castilla y León and Aragón.

In terms of employment, the employment rate of the population aged 15 and over in rural areas is 44.5%, which is lower than in urban areas. Rural areas have been somewhat more resilient than urban areas to the effects of the crisis caused by Covid-19, as employment has fallen to a lesser extent.

In general, in both countries, several challenges characterize the rural socio-economic contexts, especially the most remote rural areas. A notable concern is the migration of younger generations to urban centres, leading to demographic imbalances and labour shortages in rural communities. Besides, traditional agricultural sectors have to compete with global market pressures and ageing workforces, accentuated by limited technological access and infrastructural deficits in many areas.

At the same time, rural areas (of all types: rural areas close to city, remote rural areas, rural villages) in both countries have very valuable and specific agricultural cultural and artistic traditions and heritages. They are famous for the production of specific local products, which attract tourists and foster the establishment of niche markets.

To sum up, the rural context of both countries reflects a complex interplay of challenges and opportunities.

1.1 AGRICULTURAL SECTOR

In **Italy**, the overall weight of the agricultural sector on the national economic system is at 2.2% of GDP, when the entire agri-food system is considered - from primary production to retail trade – the incidence rises to 15% (CREA, 2022). The agri-food sector (agriculture and food processing and beverages) represents almost 60% of overall value of production.

In **Spain**, agriculture is characterised by a high contribution to the country's economy, with the primary sector accounting for 2.9% of the country's economy (total GVA).

In both countries, in the last decades, agriculture has been characterized by a process of land concentration.

In **Italy**, in the last 20 years, the number of farms has more than halved, while the UAA has decreased by about 5% (ISTAT, 2010 2020). In 2010, there was 1,620,884 farms covering a UAA of 12,856,000. By 2020 the number of farms decreased to 1,133,023, while the UAA had decreased to 12,535,000. In fact, although about 51% of Italian farms are of less than three hectares (in 2010 there were 61.4%), the reconfiguration of the agricultural system is clearly moving in the direction of an increase in farm size. The average farm size has gone from 7.9 hectares (2010) to 11.1 hectares (2020) (Sivini, 2023).



In **Spain** farms are quite larger than in Italy. In 2010, Spain had approximately 989,770 farms covering a UAA of 23,752,610 hectares. By 2020, the number of farms had slightly decreased to 914,871, while the UAA had expanded marginally to 23,913,682 hectares. The average size of farms witnessed a significant increase from about 22 hectares in 2010 to about 26.4 hectares in 2020.

This indicates a trend towards larger-scale farming operations in both countries, even though Italian farms are on average less than half the size of Spanish farms and the UAA is marginally decreasing

In both countries, agriculture is still characterised by family farms, where family members provide a significant labour input. However, the employment of non-family labour force (in number of persons) has increased significantly over the last 10 years. In Italy, female labour force decreased among both the family and non-family labour force. Moreover, significantly, over the same period, the proportion of female farm managers has slightly increased in Italy: in 2020, 31.5% of total farm managers are women. In Spain, the total female family labour force, which includes sole holders and family members, dropped from 37.5% to 30.2%. In contrast, the non-family female labour force saw a marked increase, passing from 17% to 19.7%.

A process of ageing farming population is also a feature of both countries' agricultural contexts.

Italy is one of the top ten organic producers' countries in the world: in 2020, area under organic cultivation has reached 2.2 million hectares, i.e. 17.4% of the overall UAA. Multifunctionality is a choice that characterizes farms managed mostly by young people and women. Italian farms with other gainful activities are 5.7% of the total but this percentage rises to 27% in farms managed by young farmers. Multifunctionality is mainly articulated in the offer of agrotourism services (about one third of the multifunctional farms), contract work, product processing and solar energy production. The number of agritourism where female farmers are engaged is constantly increasing.

Spanish agriculture is highly varied, with significant diversity in climate, topography, and soil conditions. This results in significant differences in types of farming between territories. Vegetables and horticulture, fruit and pig meat are the most important sectors in terms of production value. Spain is responsible for half of the EU's production of olives and for one third of fruit. In terms of surface area Spain is one of the leading organic producers in the European Union. According to the latest available statistics of the Spanish Ministry of Agriculture, Fisheries and Food, organic agricultural land area in Spain increased by 8% and exceeded 2.6 million hectares in 2021.



2. INNOVATION PATHWAYS

2.1 MOTIVATORS FOR INNOVATION

2.1.1 RURAL INNOVATION

For what concerns the rural innovation cases, both in Italy and in Spain, women are all moved by the desire to live close to nature – most often in a rural area where they grew up or where they had a special connection. Besides, through their projects, they all aspire to boost the sustainability and quality of life of a specific rural area (being it close to city, a rural village or a remote rural area), enhancing its environmental and cultural resources (to attract tourists) as well as boosting a sense of community among the people living there.

Women whose projects focus particularly on **environmental sustainability** aim particularly at using and enhancing the value of local resources to develop projects that have the least possible impact on the environment. What prompted them to act was the desire to follow personal interests (e.g. preserve the local environment), pure curiosity (e.g. towards mushroom cultivation) but also the lack of other job opportunities (in Spain).

Women focusing on **social sustainability**, on their end, are motivated by the desire to foster community engagement (e.g. developing networks) and social inclusion (e.g. creating rural space dedicated to educating children and supporting marginalized group, Spain; organizing summer camps for children affected by chronic illnesses, Italy).

Women innovators in the context of **economic sustainability** aim to produce high-quality, artisanal products that enhance the reputation of the region, while also achieving financial independence. Furthermore, also the promotion of networks to enhance local services (Italy) and the engagement with circular economy principles (Spain) are relevant features of these projects.

Rural innovators focusing on **cultural sustainability** aim at enhancing the cultural heritage of a place, by finding ways to narrate local stories and valuing local products, the landscape and its people. The creation of content (e.g. short promotional and storytelling videos, Italy) or innovative communication methods (e.g. theatrical visits, Spain) are characterizing elements of these projects.

2.1.2 FARMING INNOVATION

Both in Italy and in Spain, women farmers leading innovations focusing on **environmental sustainability** are motivated –independently from the typology of rural area- by the desire to work and live close to nature, making a living while also enjoying and caring for the local ecosystem. In other words, the main drive is to align a farming business with ecological principles and a sustainable lifestyle. In the cases when women



inherited the farm from their family, the motivation can also be that of continuing a family business. This generational continuity provides a strong motivation to keep ancestral knowledge alive, ensuring that traditional farmer's lifestyles are maintained and adapted to contemporary environmental challenges.

Women farmers leading projects focusing on **social sustainability** in both countries clearly aim at sharing the benefits of living close to nature and with animal with others, and in particular with those who –they believe- need it the most: children, as well as people belonging to marginalized groups (migrants, disabled people), women living in vulnerable situations. Their desire is to enhance social inclusion through their projects, independently from the rural typology in which they are based.

Women farmers leading projects focusing on **economic sustainability** where also motivated in their choices by the search of a sustainable life, living closer to nature. The ones who inherited the farm where also motivated by the desire to continue a family tradition while finding ways to rethink and innovate it through multifunctional and polycultural strategies and with a focus on environmental issues. In order to increase the added value of their businesses, they have started processing agricultural products, selling them through short supply chains and diversifying their activities (e.g. agritourism, organizing farm-related workshops and activities for adults and children).

Women farmers leading projects focusing on **cultural sustainability** are motivated by the desire to preserve traditional farming practices, continuing producing traditional crops, and preserving natural environment to enhance the cultural heritage of a place.

2.2 CONSTRAINTS AND FAVOURABLE CONDITIONS

2.2.1 RURAL INNOVATION

CONSTRAINTS

The constraints were similar across sustainability dimensions and rural typologies. Both In Italy and in Spain, women with children find it difficult to juggle between caring responsibilities and the management of a business.

Besides, many of the women entrepreneurs mentioned how they find it difficult to get credibility and support both from local people and by public officers as they have to deal with bureaucratic matters. Patriarchal social norms are still predominant in many rural areas and mistrust and skepticism by local people is experienced particularly by women who started their enterprise/project from scratch.

In this regard, financial constraints are also a common challenge in both countries, especially if the businesses are young and yet to be fully established. Access to grants and other financial support programme is limited, granted mainly upon existing capital and often not sufficient to develop a business from scratch. Women frequently have to rely on their own savings, resources and networks.



Bureaucracy and administrative constraints also at times limits women's capacity to develop a business in both countries.

Inadequate infrastructure is another issue. In Italy, mainly related to lack of transport and in Spain to poor broadband connectivity, especially in remote rural areas.

FAVOURABLE CONDITIONS

Favourable conditions were also similar across sustainability dimensions and rural typologies.

Inheriting or having the possibility to use a space owned by the family turned out to be a favorable condition for several women both in Italy and in Spain. In relation to this, support by family members and/or partners and friends was also mentioned, both in terms of practical (help with the management of the business/project, sharing care/domestic responsibilities, learning skills) and financial support.

In Italy, collaboration with local municipalities was also mentioned as a very favourable condition. In the case of two experiences (one focusing on environmental sustainability and one focusing on social sustainability), women used buildings owned by local governments to develop at least part of their projects.

The opportunity to access financial or capacity building programmes was also underlined by a few women.

Moreover, in both countries, leveraging local agricultural products and resources has also proved to be a successful strategy, especially for businesses focusing on economic sustainability.

Being part and boosting the development of local networks is also an important favourable condition, both in Italy and in Spain. They are useful for exchanging knowledge, information, boosting the market of products but also for contrasting women isolation in rural areas.

2.2.2 FARMING INNOVATION

CONSTRAINTS

In both Italy and in Spain, women whose projects focus on environmental and social sustainability mentioned several challenges and constraints.

First of all, finding land –to buy or to lease-to start cultivating- in cases where women did not inherit the farm.

Also accessing funding through different government support programmes is a challenge for most women working mostly on these sustainability dimensions, especially for small



farmers who are practicing organic and biodynamic farming. In the opinion of these women, this is because agricultural funds most often target farmers practicing mainstream and large-scale agriculture or required to already have an important capital to invest.

Moreover, in both countries, women mentioned how they often feel overwhelmed by bureaucratic requirements and procedures related to the access of funds and grants application.

Especially when developing new projects, it happens that side jobs are also needed. Two young women in Italy (one managing an environmental sustainability project in an area close to city and one managing a social sustainability project in a rural village) mentioned that they sometimes do side jobs (in a food factory and in a bar) to support themselves financially.

Regulations and legislation are not always suitable for innovative initiatives. For example, in Spain, specifically, in a remote rural area part of the nine outermost Regions of the EU, one of the innovators in the environmental sustainability context dedicated to the production of eco-wrapping derived from bee's wax, reflects that regulations and legislations do not properly fit in the region that often has different geographical characteristics and diverse weather conditions with respect to mainland Europe and in which Climate Change impacts differently. The innovation mainly depends on the production of honey in which specific conditions are needed and to overcome such obstacles it was necessary to diversify the business model but also to become an activist on the protection of the soil. In Italy, to start a farm kindergarten and to hire a teacher, it was necessary to set up and register a social association next to the farm.

Notably, both in Italy and in Spain, independently from the specific focus of their projects, women have to find ways to navigate very patriarchal social contexts. For instance, a woman in Italy managing a project focused on economic sustainability, mentioned how many people from the local community would initially go and look for her father if they had questions about the business, even if she was the manager. In Spain, a woman in the social dimension in the context of a rural village mentioned the necessity of having a male co-signer to access funding or loans, as it is still common for local financial institutions to prefer male guarantees.

Other women (across different sustainability dimensions), both in Italy and in Spain, had to find ways to juggle between their care work as mothers and their farming work as entrepreneurs. Support from partners and/or family members often turned out as fundamental in this regard.

In both countries, finding specialized courses to develop specific activities and services can also be a constraint. In Italy this was the case, especially for those women -across different sustainability dimensions- who wanted to practice organic and biodynamic farming or wanted to learn how to transform their farm products into local traditional products (e.g. making specific sorts of cheeses). In fact, such specialized courses are most often not offered through the public school system nor financed by governmental



support programmes. Hence, women need to gain specific knowledges and skills either as self-taught or through other networks of farmers.

The lack of basic services is also often mentioned as a challenge, especially in remote rural areas. Internet connectivity is mainly an issue in Spain. Several Spanish women pointed out that this limits their access to information, digital markets, and modern Agri-tech solutions across all sustainability dimensions.

FAVORABLE CONDITIONS

In Spain, as in Italy, accessing land or spaces owned by the local government has proven to be a facilitator for women innovators, particularly for projects focused on environmental and social sustainability.

Renting or buying pieces of land that had been uncultivated for many years is another way to face financial constraints to access land as these plots are usually cheaper, although of course they require more work to be cleaned and then used for cultivation. This is what two women in Italy, one focusing on cultural sustainability and one on social sustainability, who did not inherit a farm, chose to do.

In both Italy and Spain, being part of networks (of local small farmers, entrepreneurs, and women in general) is also a fundamental favourable condition to develop a business, especially for women living in remote rural areas.

Moreover, in both countries, support of partners and/or family members was mentioned as fundamental across sustainability dimensions: helping with different tasks within the farm, helping with caregiving responsibilities as women are busy with their businesses etc.

Accessing financial support or capacity building programmes to further develop a business was mentioned as a very important factor for most women across sustainability dimensions, both in Italy and Spain. The vast majority of women interviewed –no matter if they started a project using their own savings, by setting up a crowdfunding campaign (in Spain) or by inhering a family's asset, business or financial capital- applied for some grants to enhance their innovative capacity, at some point during their innovation journey.

2.3 IDEA AND PREPARATIONS/DECISIONS AND PREPARATORY ACTIVITIES

2.3.1 RURAL INNOVATION

The first steps to start engaging in innovation depends on if the woman inherited a family business or asset or started her innovative project from scratch.



Women who did not inherit a business often need to first secure financial means to develop their ideas, whether through loans, grants, or personal savings. In both Italy and Spain, most women who did not inherit a farm or business started with their own savings, often with financial help from family members, and then applied for grants or financial support programs later in the innovation process, once the project was already partially developed.

Finding a physical space to develop a project is also central to many initiatives. In Italy, in some cases, women managed to make agreements with local municipalities to use a public building to set up a business or a meeting place to organize different activities/events. In other cases, they had to buy or rent a space.

Networks are seen as essential both for expanding markets and for sharing information and developing synergies with other actors, and particularly with other women. Several of the innovative practices studied are linked to the idea of creating networks both between producers (there are examples in both countries) and between women (e.g. in Italy with the explicit aim of promoting women's empowerment). In all cases, the use of social media and/or web platforms facilitated the development of networks. For example, in Spain, one woman entrepreneur, focusing on economic sustainability, started by creating a website and an online shop to sell her artisanal products internationally, including organic food products and handmade crafts. She used online platforms to connect with international clients and built partnerships with distributors in other countries to grow her business globally.

Moreover, while most women in both countries used their educational background to develop their projects, others took training courses or engaged in a long process of self-learning as their projects entailed components, they did not have previous experiences in. For instance, in Italy, one of the women focusing on environmental sustainability engaged in a long process of research to find out about, learn and enhance local tailoring practices. In Spain, a woman innovator focusing on a cultural sustainability project sought training in traditional crafting techniques to ensure her products remained faithful to local heritage.

2.3.2 FARMING INNOVATION

Both in Italy and in Spain, the first steps to transform ideas into reality differ greatly between women who inherited a farm or other assets and women who started their projects from scratch.

Independently from the sustainability dimensions, in both countries, those women who inherited a family farm had a solid base to experiment with changes and implement innovations (e.g. shifting towards organic/biodynamic agriculture or continuing a family tradition, embracing multifunctional farming). For example, in Spain, two young women inherited a family farm and modernized cheese production using sustainable and ancient farming practices.



On the contrary, those who did not inherit the farm had to develop the entire project/innovation from scratch – mobilizing funding, resources and social networks to do so. In Italy, all women across sustainability dimensions who did not inherit a farm started their project with their own savings and applying for funding at a later stage. Yet, they still had to seek other types of resources. One of the Italian women leading an environmental sustainability project sought, for instance, the support of the local municipality to access public land to develop her project (based in a remote rural area).

Training was also a need in both countries. In Italy, at least two women (one working on an environmental sustainability project, and one working on a social sustainability project) followed farming-related courses provided through capacity building programmes within the public school system. Many other women followed courses provided by farming networks and informal schools (e.g. on biodynamic farming, cheese making). In Spain, access to capacity building training programmes was provided by networks at national level in areas of sustainable agriculture and management. Informal learning via community workshops and agricultural associations has been also relevant.

In both countries, all women developed contacts and networks within their local community. Networking emerged as a critical activity, with many joining local, regional, and even national associations (such as farmers association). These networks provided support, shared resources, and advocacy platforms.

Family connections have been also useful. In Spain, for instance, one of the external factors that helped an innovator from a rural village was the fact that her parents were farmers and passed on to her certain values in this area, facilitating the visibility of her business in the region.

The support of the family was also fundamental in many cases. For example, in Italy it was the father of one woman, also a farmer, who provided the first nucleus of the herd. This allowed her to develop her own business. In most of all the cases, moreover, the support in terms of knowledge and agricultural expertise, was important for the women who inherited the farms

Several women -both those who inherited the farm and those who started from scratch- sought financial resources for developing the innovation: applying for grants and support programmes (especially CAP measures) or asking for bank loans.

2.4 CONCRETISATION OF INNOVATIONS

2.4.1 RURAL INNOVATION

The tangible outcomes of innovations led by women in rural areas in Spain and Italy are diverse, and independently from the sustainability dimensions, environmental awareness characterized all the experiences.

Innovations in both countries and across different rural typologies could entail the valorization of local products (organic and biodynamic farm products, textiles, healthy



processed food), that are produced with great attention and respect for the local ecosystem. In some cases, this means upcycling or recycling local products to produce new items, while reducing waste and carbon footprints. Several Spanish rural projects have integrated - or are planning to integrate - renewable energy solutions, such as solar panels, to ensure energy self-sufficiency and sustainability. Regardless of the type of rural area in which women operate, new services have been also created for local people as well for tourists.

Several of the innovations have led to the creation of new jobs, contributing to local economic development. In Spain, one significant example is a woman who established an elder care facility in a remote rural area. This project resulted in the creation of over 20 new jobs, primarily for local women, many of whom had never worked formally before. It is worth mentioning also a group of other three Spanish women innovators who - together - established a social cooperative to improve the services available in their valley, aiming to create new quality jobs for the local population. In Italy as well, one woman opened a mountain hut/restaurant in a rural remote area hires several local people permanently; another women taking over the management of a family business focused on the processing of local farm products (in a rural area close to city), is able to hire up to 10 people during the high production season..

Many projects have a strong community engagement component, offering spaces and organizing events and workshops that strengthen social ties and a sense of community among people living in a specific rural area (especially in rural villages and remote rural areas) as well as their relations with tourists. For instance, in Spain, for example, a woman-led initiative in a rural village created a community center where locals and tourists participate in workshops on sustainable consumption, environmental education, and local traditions. This space has become a hub for social inclusion, providing a place for people of all ages and backgrounds to come together, and has had a particularly strong focus on empowering women and marginalized groups.

Moreover, the innovations led by women often have a specific focus on people with special needs or who find themselves in particularly vulnerable situations (disabled people, people –including children- with chronicle diseases, marginalized women), which something that greatly increases social inclusion in rural areas (across rural typologies) and fosters gender equality.

Besides, projects include the organization of events on different important topics such as women's rights, the importance of eating healthy and locally and supporting local farmers. This also has political implications: in fact, successful projects, has been highlighted in the Spanish context, have influenced local policies or institutional practices.

All the projects analyzed also contributed to strengthening the local cultural identity, either enhancing the value of local products and/or the local historical and cultural heritage (across rural typologies).



2.4.2 FARMING INNOVATION

The tangible outcomes of farming innovations are diverse and impactful.

In both countries, independently from the sustainability dimension of the innovations, the vast majority of the practices analysed prioritize the conservation of local crop varieties and animal breeds, contributing to agrobiodiversity and ecological resilience. This helps to enhance the local cultural heritage (across all rural typologies), fostering the local cultural identity and promoting it to tourists.

Most of all practice organic farming, even if they do not all have the official certification. Several projects go even further by integrating biodynamic, regenerative and synergic farming practices.

Innovations also entail the production of new products that are obtained by guaranteeing the sustainability of natural resources: e.g. birch organic sap, organic cheese; handmade paper from garlic tunic, etc.

In both countries, the creation of farm-based services for local people (e.g. farm kindergarten), for tourists (e.g. organizing farm visits and different types of workshops) as well educational activities/workshops and awareness campaigns that teach both children and adults about sustainable consumption habits, environmental sustainability, and local traditions is a feature that characterize many practices analysed, especially the ones that focus on social and economic sustainability dimension. Often, these activities target specific marginalized groups (migrants, people with disabilities, and other women), fostering social inclusion and gender equality. New services such as farm kindergartens are particularly important in remote rural areas and rural villages.

Choosing to develop a multifunctional farm turned out to be an economically successful strategy in both countries. Through their various projects, several of the women interviewed in both countries have been able to create employment opportunities, not just for themselves but also for other residents.

Several women in Spain have also engaged with local government bodies to influence agricultural policies, advocating for more support and recognition of sustainable practices.

To reduce reliance on external power sources and decrease the carbon footprint of their operations, most Spanish farms have integrated solar panels and small-scale wind turbines. In Spain also, technologies like GPS for livestock management and automated irrigation systems were adopted to improve the efficiency of the farms.

2.5 IMPACTS OF INNOVATIONS

2.5.1 RURAL INNOVATION

Moreover, projects focusing on economic sustainability most often focus on selling products and services that are very particular to a specific area. Selling local products



as well as offering workshops and activities related to a specific territory –its environmental and cultural value- boosts the local economy and contributes to the capacity of local people (farmers, entrepreneurs) to continue living and improve their livelihood possibilities.

The innovations had several impacts on the sustainability dimensions of the different contexts in which they were developed.

Impacts of women's innovations in both countries, in terms of **environmental sustainability**, are related to the preservation and care of local ecosystems: environmental-related projects tend to prioritize local products and existing resources. For instance, supporting sustainable and traditional farming practices (in both Italy and Spain) and adopting renewable energy sources and digital marketing tools (in Spain) helps communities to reduce dependence on external resources and to adapt to environmental challenges – increasing their long-term resilience.

Social impacts entail the strengthening of community ties, creating possibilities and spaces for local people to meet and feel a sense of community and cultural identity. In Italy, three projects categorized within three different sustainability dimensions (environmental, economic and cultural) aimed –in different ways- at creating synergies and connections between local farmers/entrepreneurs and local people and tourists, to boost both the local economy and a sustainable rural development; one project (within the category social sustainability) aimed at creating a women's network to organize events and a safe space of support and sharing. Giving the opportunity to specific vulnerable groups (women, disabled people) to meet, support each other and have fun together is also an important outcome of social projects. In Spain, for example, a women-led project focused on social sustainability created a thriving farm school granting access to families, communities, and schools to the enriching experiences of the rural environment. This project is not limited to workshops and participatory experiences; it extends to creating a safe haven for women who have endured gender-based violence. This dual-purpose initiative reflects the innovator's commitment to social inclusivity, empowerment, and community enrichment.

Economic impacts are related not only to developing business which allows women to make a living but also, in many cases, to create jobs for others (permanent or seasonal). In addition, the women interviewed contributed to rural development enhancing producers-consumers relations, increasing the demand of local services and local products. In Spain, for instance, a woman has launched a regenerative handicraft project in a remote rural area. This project utilizes banana tree waste to create products and offers training in fiber processing. She actively engages in social initiatives to teach local communities her techniques, empowering them to explore alternative economic opportunities.

Cultural impacts concern the preservation of the cultural and traditional heritage of a specific rural place (all typologies) and the cultural identity of the people who live there. By valuing traditions (e.g. in relation to farming, tailoring, handicrafts), the cultural capital



of a place is promoted: the range of offers for tourists increase, and local people are encouraged to develop other activities and services. An example from Spain involves the use of historical narratives and storytelling to create thematic tours for tourists in a rural village. This project strengthens the cultural identity of the region by educating both locals and visitors about the area's history and cultural significance, while simultaneously boosting the local tourism industry. Furthermore, in both countries women leading innovative projects challenge patriarchal stereotypes and norms and contribute to changing perceptions about the capabilities of women in leadership and entrepreneurship. In addition, some have been involved in local political bodies or local business organisations (particularly in Italy), while others (in Spain) have gained national recognition. In both cases, this has increased the visibility of women as entrepreneurs and challenged traditional gender roles.

2.5.2 FARMING INNOVATION

The innovations had several impacts on the sustainability dimensions of the different contexts in which they were developed.

All the 40 women's practices analysed have a positive impact on **environmental sustainability**; of these, 35% had a significant impact and 37.50% an outstanding impact (see annex 1 in this deliverable). The farming practices adopted take care of the local ecosystem. Women choose to be as least extractive as possible and to use natural resources in a sustainable way, practicing organic and/or biodynamic, regenerative agriculture and cultivating traditional crops. For instance, a woman innovator from a rural village has been a pioneer in Spain when she started the sowing of ecological almond trees. Due to the high dependency of farmers on phytosanitary and chemicals, her objective was to make her business ecological and to show that a traditional model can be changed. Women are also very attentive to animals, working with antispicisist approaches (in one case in Italy, in a remote rural area) and ensuring animals' well-being and harmonious fit within the local ecosystem.

Renewable Energy integration also has important environmental impacts as it improves energy self-sufficiency and reduces operational costs without drastically altering farming processes (in Spain).

Social impacts were very relevant in both countries, in most of all the experience analysed (37 practices). Farms become spaces where different people can meet, learn about sustainability, climate and healthy and sustainable food habits and enjoy nature in a respectful way. Farm-based activities for children and adults with disabilities are also offered in the context of several projects in both countries. In these ways, social inclusion and gender equality are enhanced through farm-related projects: farm become safe and inclusive spaces also for people who are often marginalized (migrants, disabled people, women who find themselves in particularly vulnerable situations), but also places a starting point to challenge traditional gender roles and inspire other women to develop



their ideas. Several women, both in Spain and in Italy also significantly engage with local government bodies and local organizations to influence advocating for more support and recognition of sustainable practices (in food production and consumption) and for the provision of services, especially for the most disadvantaged. By joining networks and cooperatives, women in both countries continue to strengthen the social life of a rural area (of any typology), sharing knowledge and resources more effectively.

The **economic impact** was greater on inherited farms than in newly established ones. In any case, the innovations introduced (e.g. sustainable farming practices, new tourism services, processing of agricultural products, sales through short supply chains, use of new technologies such as GPS for livestock management, etc.) have boosted the local economy, also attracting people and tourists from outside the specific rural area (especially to rural villages and remote rural areas).

The **cultural impact** of activities in both countries has been very significant. Several projects contribute to enhancing the cultural heritage and local agricultural practices, as well as preserving the biodiversity of the area (including marine biodiversity in the Spanish case), local crop varieties and traditional seeds, an increasingly important aspect in a context of climate change. Furthermore, all the experiences analysed significantly impacted local gender dynamics, empowering women and challenging the patriarchal “normality” that often dominates the agricultural world.

3. INNOVATION ECOSYSTEMS

3.1 POLITICAL ASPECTS

3.1.1 RURAL INNOVATION

In both countries, the political landscape does not impact on the motivations of the women interviewed to start the activities. However, in Spain some women accessed public funds (e.g. CAP Measures, INJUVE, regional programmes) which have been instrumental in supporting rural development projects. For instance, initiatives like regional development funds or subsidies for adopting renewable energy technologies helped some women to deal with initial investment costs and operational expenses. Moreover, in Spain, in some cases, the provision through public investments in infrastructure, such as broadband internet or transport links, have significantly benefited rural businesses, enhancing their ability to reach broader markets and improve their service offerings. In Italy, only in one case accessing a public grant (Resto al Sud) was fundamental to start and develop the project; in few other cases accessing public grants allowed to further expand the activities.

Several women in both countries (across rural typologies and sustainability dimensions) reported facing important bureaucracy and regulatory hurdles that delay or complicate business operations or their application for funds. Funding programs often have complex application processes or eligibility criteria that do not consider the unique challenges



faced by rural women entrepreneurs and do not target them specifically. Furthermore, regulations (e.g. around land use, tax) was also an issue mentioned.

Many women in Spain, leading projects across different sustainability dimensions and rural typologies, accessed different support programmes sponsored by the national and regional governments to develop capacities and gaining knowledge in different areas (like digital technology and business management). In Italy, only few of them have this opportunity.

The opportunity to rent (for very favorable prices) public spaces to develop the project, or part of it, was important for at least two Italian women. Other two reported that they decided to transform (informal) networks into non-profit associations exactly to be able to get the opportunity to access public spaces (to organize events, markets, etc.) and apply for funding. In Spain, although examples of accessing public spaces are less common, some women innovators in social sustainability projects were able to access public spaces to hold community workshops and events, creating a community hub for local people to engage with one another and learn about sustainable practices. This access to public spaces not only enhanced social cohesion but also provided the platform for women to expand their networks and boost their visibility as rural entrepreneurs.

SUGGESTED POLICIES

In both countries, there is a strong call for simplifying bureaucratic processes to start a small enterprise and reducing the regulatory burden in all rural typologies and across sustainability dimensions.

Enhancing access to financial resources through targeted grants, loans, and subsidies specifically designed for rural and women-led businesses could address significant barriers, especially to support women in the early phases of their businesses' establishment. Specifically in Italy it was suggested that making micro credits programmes available to women entrepreneurs upon the presentation of a well-planned business plan and idea would be a great opportunity especially for those women who do not have a significant financial capital to invest and did not inherit a business.

In relation to this, offering more robust technical and advisory support services as well as courses would help these women entrepreneurs navigate the early stages of business development as well as further expansions of their businesses.

Moreover, in both countries, it was mentioned by several women how making public spaces more readily available -at favourable conditions for the development of women enterprises/projects and providing venues where women can meet, start collaborations, organize events and markets, would be a great support local governments could provide. In general, enhancing collaborations and dialogue between the public and the private sectors is thought to be crucial for rural development.



Besides, in both countries, and particularly in rural villages and remote rural area, women stressed the importance of improving infrastructures and the availability of services in rural areas (all typologies): public transport, schools for children of different ages, women's clinics, afternoon activity services for school-age children, among others as well as access to markets) in order for women to be able to successfully develop their projects and to make rural areas more attractive for tourists. In particular, women emphasized the need for childcare services and schools for children of different ages in rural areas to balance caregiving responsibilities with entrepreneurship. In Spain, particularly, women in remote rural areas expressed the challenge of managing their businesses while caring for children, especially without access to affordable childcare or after-school activities. Addressing these gaps in public services would not only ease the burden on women entrepreneurs but also make rural life more attractive and sustainable for families.

3.1.2 FARMING INNOVATION

Just like in the case of rural projects, in both countries, the political landscape did not impact on the motivations of the women interviewed to start farming and innovating; at most, in some cases, political decisions and regulations were helpful in addressing the many challenges women innovators face.

Access to public funds (e.g. CAP Measures, INJUVE, regional programmes) has been instrumental in supporting rural development projects. For instance, initiatives like regional development funds or subsidies for adopting renewable energy technologies have been in helping some women to deal with initial investment costs and operational expenses. Moreover, in Spain, in some cases, the provision through public investments in infrastructure, such as broadband internet or transport links, have significantly benefited rural businesses, enhancing their ability to reach broader markets and improve their service offerings. In Italy, only in one case accessing a public grant (Resto al Sud) was fundamental to start and develop the project; in few other cases accessing public grants allowed to further expand the activities.

In any case, many women in both countries, leading projects across different sustainability dimensions and rural typologies, accessed different support programmes sponsored by the national and regional governments (e.g. CAP measures (in both countries), INJUVE (in Spain) to develop capacities in terms of farming, and gaining knowledge in other areas such as digital technology (in Spain), and business management (in both countries). In Italy, in most cases such support was received not at the time of the start-up, but at a later stage, when the farm had already been set up or inherited by a woman— suggesting that funding does not really support innovative ideas that still have to be developed. Moreover, in the case of Italy, when some sort of support was received, it was in the context of policies not specifically targeting at women. On the contrary, in Spain, some entrepreneurs benefitted from specific grants and subsidies aimed at supporting rural and women-led enterprises.



At the local level, in both countries, the support received from local institutions varied in different contexts (regardless of the rural typology), depending greatly on the sensitivity of local governments rather than on policies. In Italy, in two remote rural areas, municipalities supported the innovative ideas of women by renting land/public spaces to them. In Spain, the support was indirect, as local government investments in infrastructure, such as broadband internet or transport links, have significantly benefited several rural businesses.

Despite these instances, in most cases in both countries, local governments have not been supportive, not really actively caring about women-led innovations in agriculture. In both countries, women highlight the lack of bureaucratic support to develop a business plan and to access financial and other support programmes. Lack of services (e.g. for childcare) is also often mentioned as an issue, especially in remote rural areas, and particularly in Italy.

Navigating the bureaucratic landscape associated with agricultural innovations and securing necessary permits and approvals was a challenge among all women innovators (whose projects relate to all sustainability dimensions) in both Italy and Spain. Often the requirements are too strict to apply for funding, or women already need to have a set up business or a capital to invest in order to apply. For these reasons, they often give up the applications and prefer to rely on their own savings, resources and networks of support.

On the contrary, participation in and support from local agricultural cooperatives and associations has been mentioned as relevant in several cases. These organizations often provide a platform for networking and resource sharing, especially the only women's sections, as they enhance women's ability to navigate market and regulatory challenges. In Spain, through national networks and associations, women have led collective actions that have fostered a change in how agricultural innovation is approached in policy. More specifically, women have advocated for policies that support sustainable farming and recognize the role of women as key drivers of innovation within the sector.

In general, women in both countries point out how women farmers' active involvement in institutional bodies is always positive for political change towards gender equality and environmental sustainability. In Italy, some women have started to be active in local assemblies and government-related associations, and they feel this is very important to spell out the challenged they face.

SUGGESTED POLICIES

Several changes in the actions of institutions and governments at different levels are suggested by the women interviewed in both countries.

In both countries, enhancing access to financial resources through grants, loans, and subsidies specifically designed for women-led farm projects could address significant barriers. In Spain, some women suggested that tailored financial support for sustainable



agriculture and biodynamic farming would help them adopt new technologies and techniques without relying heavily on personal savings or private loans.

In both countries, offering proper technical support and advisory services to apply for grants and get loans would help women farmers to successfully develop their innovative ideas: to know which grants and programmes they can apply for (e.g. how CAP measures work at the national and regional levels) and to develop a related business plan. Such advisory services should be offered through public administration, as private consultants are often very expensive and not always well prepared in the matter.

Besides, public administrations could support women-led innovations by improving infrastructures and availability of services in rural areas (all typologies). Women in both countries stressed the importance of having access to public infrastructures, and services (public transport, schools for children of different ages, women's clinics, afternoon activity services for school-age children, among others as well as access to markets) in order to be able to successfully develop their farming projects and reach out to both local people and tourists. Policymakers should prioritize gender equality in agricultural policies, streamline bureaucratic procedures, and provide targeted support to women farmers, particularly in terms of land access, financial assistance, and training.

Moreover, support from local governments could be in the forms of granting public spaces so that farmers/entrepreneurs can meet and network, as well as organize markets to sell their products and offer other farm-related services (farm kindergarten, restaurants, cooking workshops, etc.): renting public buildings for favorable rates or giving them to entrepreneurs through loans for use.

3.2 ECONOMIC ASPECTS

3.2.1 RURAL INNOVATION

In both countries, most women started their project/business without receiving financial incentives. In most cases, financial incentives were requested only to further develop and expand the activities women had already started. In Italy, for example, only one woman (leading a project focusing on economic sustainability) received an incentive to start her activity. Funding was provided either by regional governments, by public foundations (e.g. European Cultural Foundation) as well as private foundations or by the European Union (e.g. through the CAP, NRRP, etc.).

Local institutions also occasionally provide direct financial support, including providing subsidies for participating in local fairs and financial assistance for acquiring necessary certifications.

Other women in both countries obtained financial support in the form of funding for participating in training and mentorship programs, offered at the regional, national or even European level. These programs were important for women across sustainability dimensions for skill development and network building – even if they did not imply or guarantee access to funding to develop the business idea.



In any case, women in both countries (and across sustainability dimensions and rural typologies), faced important challenges to get proper financial support to develop their rural business, due to stringent eligibility criteria of traditional funding sources and bureaucratic hurdles. Many found the application processes overly complex and had the impression that financial support programmes for start-ups are not really designed for women opening small-scale businesses in rural areas. Interest rates are too high, or one needs to already have significant financial capital to invest. Moreover, private consultants who provide technical support for applications are very expensive and often not even useful in supporting the application procedures.

Significantly, most women relied on their own savings or financial support from family members to start or expand their projects, instead of approaching banks and other financial institutions. Moreover, at least in two cases in Italy, women also do side jobs to support themselves financially while developing their innovative rural projects. Besides, other alternatives funding methods were also used at times. In Italy, a crowdfunding campaign was promoted by one woman to support the development of her project. In Spain, some women tapped into community networks or informal financial resources, such as loans from family, friends, or community members

Developing financial and capacity building programmes (e.g. micro grants and loans, courses on business management) targeting women entrepreneurs in rural areas (all types of rural areas) seems fundamental to support women-led innovations –across different sustainability dimensions- and thus rural development, both in Italy and in Spain. In this regard, also simplifying application procedures for existing grants and programmes and/or provide technical support to help women get proper information about different funding options and to support them during the application process, would be of great help.

3.2.2 FARMING INNOVATION

Financial incentives (mainly CAP measures) were received by several women in both countries (across sustainability dimensions and rural areas). Yet significantly, these incentives were not targeting women specifically.

Also, regional (in Spain) and National (in Italy) funds were accessed by some of them.

Other women in both countries obtained financial support in the form of funding for participation in training and mentorship programs, also offered by regional governments. These programs were important for women across sustainability dimensions for skill development and network building – even if many had to also find and self-finance other specific courses (e.g. on organic and biodynamic farming) outside the public school system and government-sponsored programmes.

In any case, these support programmes only very partly helped the development of a farming project. Women in both countries, especially those who did not inherit a family



farm, faced important challenges to get proper financial support to develop their farming business, due to stringent eligibility criteria of traditional funding sources. Some found the application processes overly complex, and they preferred to give up the application. In general, women farmers have the impression that national and European agricultural support programmes mostly target large farming businesses that practice mainstream commercial agriculture rather than small-scale organic farming. For this reason, significantly, most women relied on their own savings or financial support from family members to start or expand their projects, instead of approaching banks and other financial institutions that –in their experience- do not favor farming innovations, especially if they concern alternative modes of farming or social/cultural projects. Women in both countries felt that accessing bank loans for innovative farming projects is not easy for women. In Spain, was also underlined that it is more difficult without a male co-signer, reflecting a significant gender bias in the financial sector, particularly in rural areas. At times –at least in two cases in Italy- women also do side jobs to support themselves financially while developing their innovative farming projects.

Besides, other alternatives funding methods were also used at times. A crowdfunding campaign was promoted by a Spanish woman; direct consumer pre-payments were developed in few cases in both counties providing women farmers with immediate cash flow to support farming operations.

3.3 SOCIAL ASPECTS

3.3.1 RURAL INNOVATION

Being a woman engaged in rural entrepreneurship, in both Spain and Italy, across projects focusing on different sustainability dimensions and in the context of different rural typologies, is challenging. In fact, rural environments in both countries are still dominated by patriarchal social norms and women still need to navigate expectations about their roles as caretakers, juggling between domestic work and the development a business. For many it is not easy to manage a business, be mothers and also be involved in local associations and politics. Moreover, several women appeared motivated to precisely challenge existing gender roles and to show how they could carry on with their ideas, also re-balancing household tasks with their partners. In Spain, for instance, several women carry on projects using agriculture-related technology that is perceived to be a typically male-dominated domain.

Women also take on political roles to raise their voices; it is the case of at least three Italian women who cover significant institutional roles, either in the public administration or in local associations of entrepreneurs/consortiums, while others are involved in activist movements fighting for environmental and gender justice, contributing to alter existing inequalities.

Networks are here again extremely important for women, in both countries and across projects focusing on different sustainability dimensions and rural typologies. Being



involved in networks allows women to share resources and knowledge, expands markets and, more in general, and spread awareness about their projects. Besides, it also contributes to foster a strong sense of community and to advocate for the provision of local services, for both local people and for tourists.

Some women also participate in broader national networks and programmes, also trying to attract clients from other regions and from abroad, by developing specific communication strategies. Some entrepreneurs (especially those leading projects focusing on economic sustainability and particularly in Spain) regularly participate in regional and national trade shows/fairs to connect with peers and industry leaders and advertise their products.

3.3.2 FARMING INNOVATION

Being a woman engaged in farming, in both Spain and Italy, across projects focusing on different sustainability dimensions and in the context of different rural typologies, is challenging. In fact, rural environments in both countries are still dominated by patriarchal social norms and farming is still a male-dominated profession.

Several women reported that they were not taken seriously by male neighbors or other community members as they presented or initiated their projects, especially in the cases when they did not inherit a farm and were new within the local rural area. In Spain, most women mentioned that their instructions or decisions were sometimes questioned or overlooked also by male employees, reflecting ingrained gender biases.

Moreover, women still need to navigate social expectations about their roles as caretakers and homemakers, especially as they have children. For many it is not easy to juggle between home/care work and farm work, even when they have the support of their partners and other family members.

In any case, challenging patriarchal social norms and traditional gender roles can also work as a driving force for women to carry on with their ideas and projects. Through their everyday work and engagement, women contribute to gender equality and to alter gender roles in significant ways.

Besides the importance of their partner, family members and friends' supports, building strong local networks also turned out to be fundamental for all women farmers across sustainability dimensions and rural typologies.

Networking –especially with other farmers and entrepreneurs- allows exchanging knowledge, access information, increasing the economic sustainability of their farm, advertising their business and getting to know about market opportunities. Moreover, in both countries, for women engaging in the national organisations of farmers and in associations working in close connections with the local government also turned out to be very important.



Moreover, in Italy and in Spain it was stressed how local farmer markets are particularly significant places for networking and for connecting with other farmers and consumers – especially for women leading projects focusing on environmental sustainability and economic sustainability. For women engaged in projects focusing on social sustainability, establishing collaborations with local schools as well as with other local organizations (e.g. those working with marginalized groups, mountain guides) can also strengthen the tie with the local community and be a successful marketing strategy.

3.4 TECHNOLOGICAL ASPECTS

3.4.1 RURAL INNOVATION

Women-led innovations in both countries, across sustainability dimensions and in all types of rural areas are mostly focused on valorising local cultural heritage and products, on creating services and networking opportunities for local people and offering workshops and experiences for tourists, rather than on developing new technologies.

However, women also make use of technology in their business, to make it more sustainable. In Spain, renewable energy technologies and agricultural technologies (e.g. mobile apps) were adopted by several innovators; in Italy few women adopt modern technology to improve the efficiency of their business.

Central in all of the experiences in both countries and across sustainability dimensions and rural typologies is the use of digital marketing tools and mobile apps (in Spain) and communication tools. Most of the women have developed well-designed and regularly updated websites and social media pages.

Yet, in Spain, it was also underlined, how the lack of access to advanced technology and digital infrastructure remains a limiting factor for some women living in remote rural areas. Poor internet connectivity, the high cost of technology, and a lack of technical skills continue to challenge the adoption of new technologies.

3.4.2 FARMING INNOVATION

The use of technology in farming innovations led by women varies significantly.

In Italy, women farmers across different sustainability dimensions and rural typologies did not particularly focus on technological development in the agricultural process. On the contrary, in Spain, some women engaged in the use and development of advanced tools to enhance the farm productivity (eg. GPS tracking for livestock management; automated and smart farming; precision farming).

Renewable energy technologies are developed in many Spanish farms (solar and small-scale wind turbines), in Italy much less.



However, in Spain the reliability of broadband and internet connection, which limits the ability to advertise and sell products online, was mentioned as an issue by some women, which was not cited in Italy, even in the most remote rural areas.

In both countries, the use of digital marketing and communication tools was particularly important in business development, across sustainability dimensions and rural typologies. For instance, in Italy, all businesses but one-use social media (mainly Instagram and Facebook) and farm websites to promote their products and services. Moreover, WhatsApp groups are frequently used among farmers and entrepreneurs enhancing local networks, to coordinate about markets opportunities and organize events. Digital tools are fundamental to reach alternative sale channels, create direct producer-consumer relations and sell niche products.

○ ENVIRONMENTAL ASPECTS

3.5.1 RURAL INNOVATION

Environmental factors significantly influence the type of rural innovations promoted by women in both countries across sustainability dimensions and types of rural areas. The innovations leverage the unique environmental characteristics and resources of the rural areas where they are put in place, address environmental concerns and promote more sustainable lifestyles and eating habits.

In particular, several innovations related to environmental sustainability in both countries revolve around the promotion and use of local products (e.g. banana plant waste in Spain; olive harvest nets in Italy), limiting the production of waste.

Other environmental sustainability projects are about promoting and selling local farm products, enhancing the work of small local organic farmers and their importance for the conservation of the local ecosystem.

Several women entrepreneurs, in both Italy and Spain developed eco-tourism projects that emphasize the conservation and valorization of the local ecosystem and a harmonious interaction with the local environment. This is particularly the case of projects focusing on economic sustainability. In addition, changing environmental and climatic conditions have led some women to adopt specific changes to their projects (e.g. expanding the product range, Italy; adopting new systems for using rainwater and solar energy, Spain).

Women leading social sustainability projects in both countries and across different rural typologies also address environmental concerns by organizing workshops and activities for both local people (and particularly for marginalized groups) and for tourists, that are based on the importance of building a close connection with the local natural environment. In this way, women spread awareness about environmental sustainability, and the importance of taking care of local natural resources. This point is also addressed in projects focused on cultural sustainability because they focus on enhancing cultural and historical rural heritages and practices that are unique and sustainable for the local ecosystem.



Moreover, in Spain, several innovations involve the implementation of technologies such as solar panels to minimize the ecological footprint.

In all these ways, it appears clear that female rural entrepreneurs across sectors and rural typologies do a great effort to reduce the carbon footprint of their businesses and encourage broader ecological awareness and change within their communities.

3.5.2 FARMING INNOVATION

In both countries, environmental factors, such as the availability of natural resources like water and fertile soil and climatic conditions, strongly influence the type of crops grown in all types of rural areas. Respecting the local ecosystem, working the land without using chemicals, relying on existing resources and their rhythms without exploiting them is central to all projects analyzed.

Most women in both countries practice organic or biodynamic farming, especially those leading projects focusing on environmental and social sustainability. Many also engage in agroecological practices, being very attentive to the diversity and resilience of the ecosystem as well as community involvement.

Moreover, in both countries, women (across sustainability dimensions and types of rural areas) often choose to grow traditional local crops that fit well within the local ecosystem.

Moreover, to prevent soil degradation, many women have implemented practices such as cover cropping and reduced tillage, to maintain soil structure, enhance organic matter, and prevent erosion. These practices (e.g. Canopy method in Spain; regenerative agriculture in Italy) improve the fertility of the soil but also enhance its ability to absorb and retain water, thus creating more resilient farming systems. Similarly, in both countries, some have implemented rotational grazing systems that not only improve pasture health but also enhance soil fertility and structure.

Overall, it has been seen that several women across both countries decide to use as much as possible local products and resources to minimize the importing of products from elsewhere and thus the carbon footprint of their businesses. These efforts are also aimed to encourage sustainable tourism and to reduce waste generated by tourists.

Women farmers in both countries also take a critical stance toward mainstream consumption patterns and the industrialization of agriculture. Many engage in short supply chains (e.g. local farmer markets, community-supported agriculture (CSA) models, especially in Spain). They emphasize the importance of eating locally produced food and supporting small-scale farming, fostering a stronger connection between producers and consumers while reducing the environmental impact of food transportation.

In both Spain and Italy, women farmers, especially those who focus on social sustainability, often combine their agricultural practices with educational activities. These educational programs emphasize the importance of living a healthy lifestyle that respects the local ecosystem and its diversity.



Through such initiatives, women are not only fostering environmental awareness but also promoting social inclusion by involving local communities in their projects. Across both countries, and particularly in projects focusing on environmental, social, and cultural sustainability, women's innovations often seek to bridge the gap between environmental and social justice. For these women, innovating means not only improving agricultural practices but also advocating for social change, whether it's through sustainable consumption, educational outreach, or supporting local economies.

4. MAINSTREAMING ACTIONS

4.1 SCALING UP

4.1.1 RURAL INNOVATION

In Spain, the Ministry of Agriculture, Fisheries and Food promotes women's entrepreneurship in rural areas; supportive policies also exist in Italy (e.g. Resto al Sud). Nevertheless, in both countries, and across projects focusing on different sustainability dimensions and implemented in different rural areas, the impact of women innovative practices can be appreciated more on an informal, local, everyday level rather than by looking at changes in formal laws, policies, institutions, or norms. Rural women are crucial for territorial and social cohesion and are a driving force for innovation and rural entrepreneurship. However, rural areas, still exhibit more pronounced gender inequalities compared to urban settings, especially in Spain.

Having more women involved in local institutions and administrative bodies would be a very important starting point to address women specific needs. In Italy, for example, one of the women innovators was elected mayor of the tiny village where she operates. This way, she was able to promote various initiatives such as the creation of a nursery that, along with other initiatives, fostered the settlement of other families with children in the small village.

In general, providing targeted financial and technical support for women leading innovative projects in rural areas is key to accelerate the adoption and scaling-up of such projects, which have great emphasis on all dimensions of sustainability and in order to successfully promote gender equality.

Local as well as regional governments could build partnerships with local NGOs, as well as associations (e.g. of entrepreneurs) to understand the specific challenges and needs of women entrepreneurs. These partnerships could play a key role in influencing decision-making processes. Providing public spaces where women can develop their businesses or organize meeting/events is another way to support women rural innovator.

Other women, in Spain, have implemented renewable energy technologies in their business to be more environmentally sustainable. This application encourages support for renewable energy incentives and subsidy programs.



For what concerns social sustainability, women entrepreneurs promote initiatives that enhance the local sense of community (e.g. creating spaces where local people can meet) or foster social inclusion. Such projects, especially when developed in areas where public transportation is poor and women often feel lonely and isolated, should be highly supported (by providing public spaces, enhancing transportation systems, supporting the organization of events).

For what concerns economic sustainability, women in both countries are leading projects related to eco-tourism as well as businesses that focus on marketing local unique products. Both have great potential to boost the economic well-being of a rural area, by marketing local products as well as by attracting tourists offering specific activities and workshops related to the local cultural heritage and environment. In this regard, aligning a local tourism business model with environmental conservation efforts could be a successful and important political strategy for local municipalities.

Finally, for what concerns cultural sustainability, women are trying to influence lifestyles and consumption patterns leading projects that invite the local community to eat local healthy food and to buy local products in general. Women working more on this sustainability dimension also value the local cultural heritage and historical significance. For these reasons, they put a lot of effort in changing habits as well as in valuing the specificity of a place. Policies should support these initiatives by financing festivals and events as well as by providing platforms and resources to develop such projects. In doing so, they would also promote gender equality, giving visibility and resonance to women-led businesses.

4.1.2 FARMING INNOVATION

In Spain, women's involvement in agriculture has started to reshape how agriculture and sustainability are viewed and managed at local, regional, and sometimes national levels. For instance, the Spanish Government offers renewable energy incentives specifically tailored for the agricultural sector; the CSA model influenced local food policies and encouraged institutions to support and promote local food initiatives. In Italy, the impact of women farmers' innovative actions can be noted more on informal levels rather than by looking at changes in formal laws, policies, institutions or norms. In fact, it is mostly the public perception of the role of women in farming, and gender roles in rural areas (all typologies) that are slowly changing, thanks to women's diverse projects. Moreover, in both countries, clearly women-led innovations have also fostered greater environmental awareness within their communities.

The interviews conducted in Italy and Spain suggests that the active participation of women farmer entrepreneurs in local institutional bodies is important to support and enhance the impact of women-led innovations. Such participation should be encouraged. Similarly, networks, associations and cooperatives of women and not-only-women farmers also turned out to be fundamental and shall be supported and enhanced. In fact, thanks these initiatives, women farmers can join forces and create systems of support



and collaborations that can greatly support their work. Such networks and associations can also amplify their voice in policy discussions, leading to more rapid and significant changes in laws and policies at different levels.

In general, providing targeted financial and technical support for women leading innovative projects in farming is key to accelerate the adoption and scaling-up of farm projects with great emphasis on all dimensions of sustainability and to work towards gender equality. Policymakers need to consider gender implications in all agricultural related policies, making sure that they are able to be supportive of women's specific needs and contributions in farming.

On a more specific level, for what concerns environmental sustainability, it is clear that women farmers put a lot of effort in practicing organic, biodynamic and regenerative farming, often with an agroecological approach, as they believe these are the only farming methods that take care of the local ecosystem in the long run while providing healthy food. In this regard, it is important to allocate more funding to support farmers that practice this type of farming, growing recognition and support for these methods at various governmental levels. Boosting (through financial support) the cultivation of traditional local crops would also be a keyway to take care of and contribute to the preservation of local rural ecosystems.

For what concerns social sustainability, in both countries, women have already established or influenced relevant educational programs (e.g. farm kindergarten, workshops in schools, cooking workshops) and initiatives that promote close and harmonious human-nature relations, sustainable farming techniques, as well as more ethical and sustainable consumption habits. In this way, and by actively involving vulnerable groups of people (e.g. migrants, refugees, women victims of violence), they are largely contributing to social inclusion. For all these initiatives, they need recognition and support, not least financial support and visibility. The provision of public spaces to organize activities and meeting points also seem fundamental to enhance such women-led social initiatives.

For what concerns economic sustainability, women play a central role in promoting more direct relations between producers and consumers. By selling food in loco, at markets and through different types of consumers' associations and short food supply chains, they have shown that there are alternatives to mainstream consumption habits that are characterized by an unsustainable footprint. Such network should be supported at the local level, not least by providing women with spaces where they can organize markets and store products. Moreover, the use of renewable technologies should also be further supported.

For what concerns cultural sustainability, women farmers are playing key roles in preserving local cultural and historical farming heritages, by cultivating traditional crops and by preserving and teaching traditional farming practices. Such initiatives shall be supported as they enhance the specificity of a rural area, making it attractive to tourists and creating a great sense of community (ad identity) among local people.



Moreover, women farmers contribute in changing gender roles and the dominance of men in the farming sector. Recognizing and supporting their projects means working towards gender equality, and this is extremely important in rural areas (especially remote rural areas) where patriarchal social norms are still dominating the social and political life of the community.

4.2 SCALING OUT

4.2.1 RURAL INNOVATION

In both countries, innovative actions are developed in the specificity of a context and most women do not aim to replicate the innovation elsewhere.

Nevertheless, in several cases the women have broadened their activities, reaching out to a wider audience and selling their products/services through broader national and even international markets. This is particularly the case of innovations focusing on environmental and economic sustainability. For example, in Spain one woman in a remote rural area established an online school proposing a new management model for rural tourist destinations in order to safeguard and enhance natural resources.

Women entrepreneurs do not work in isolation and silence but are part - and enhance - local, as well as regional and national associations and networks of entrepreneurs – which mean that their innovative projects always have the potential to grow into new collaborations and inspire others to develop similar actions. For instance, in Italy, innovations that aim at creating and expanding networks remain open to include more actors – so their scope will be broadened. In addition, networks and associations of entrepreneurs emerging at the local, regional and national levels, continue to promote new projects, activities and collaborations, also fostering an expansion of markets and thus the potential for replication.

Moreover, visibility gained by some of these experiences at the regional and/or the national level- through newspaper articles and TV programmes but also through the web and social media- works well to spread best practices, advertise innovations and inspire other women in other contexts to develop innovative projects. In this regard, projects focusing on cultural sustainability can play a great role, to disseminate successful stories and experiences in impactful ways. Creating detailed documentation about successful innovations and publishing them on open access digital platforms can also play an important role in aiding their replication.

4.2.2 FARMING INNOVATION

In both countries, all case studies analyzed concerned innovations developed in the context of a specific rural territory. For most of the women, the priority is to improve the existing innovation in loco or on adding other aspects/activities to their farm project rather than reproducing it elsewhere.



However, women farmers do not work in isolation but collaborate with other actors in their territory, enhancing farmers/entrepreneurs' networks and initiatives as well as developing engaging communication strategies (through websites and social media) to gain visibility beyond their rural area, attract tourists and sell their services and products in other nearby cities or regions.

Moreover, some women in both countries have won regional and national prizes for their innovations, which has significantly increased their visibility and helped them to expand their impact beyond their immediate area. In all these ways, women's innovations in farming in the context of different sustainability dimensions have –at times- a broad resonance that definitely inspires other women and has regional/national impacts.

In the context of farming projects focusing on environmental sustainability, women can inspire others –especially in their own close community- by showing and talking about the benefits of specific farming practices (biodynamic, organic, agroecological farming practices) as well as showing how to implement re-cycling and upcycling practices. In Spain, for instance, one woman's agroecological project entailing the preservation of local seed varieties have has been replicated in nearby villages.

For what concerns social sustainability projects, women often create farm-related educational programmes that are proposed in and to school children as well as to adults through different workshops. Such educational programmes seem to become more and more popular in both countries and in different rural contexts and are frequently developed in collaboration with local educational institutions and environmental NGOs to tailor the content to local needs and conditions.

Economic-sustainability related projects reach more and more consumers if they are developed with successful communication strategies and target regional/national markets. Organizing and supporting short food supply chains, community-supported agricultural projects and giving more space to local/regional markets could be a way to help women farmers to increase their outreach, visibility and profit.

In general, in both countries, for successful innovation to be scaled out, it would be important to give them a lot of visibility, by narrating women's successful stories on television, radio and social media. Social events and festivals could also foster dissemination. Moreover, establishing mentorship programs where experienced women farmers can guide newcomers in the sector could help transfer best practices effectively. Supporting educational programmes led by women farmers in schools as well as during public events could also be a way to broaden the scope of innovative local practices and reach out to wider audiences, while educating the younger generations.

4.3 SCALING DOWN

4.3.1 RURAL INNOVATION



In both countries, most women received some kind of support (either financial, technical or to improve their skills and knowledge) through different programmes (e.g. CAP; NRRP) or from private foundations to further develop their activity/project. Nevertheless, many women managing projects across different sustainability dimensions, struggle to find and access financial support programmes to develop their ideas. This is because the available support programs are often not well-suited to the specific needs of rural or women-led businesses many: for instance, require women entrepreneurs to anticipate an important amount of financial capital, which they cannot afford. In other cases, applications procedures are too complicated, and women prefer to give up.

For these reasons, in both countries, simplifying the application processes for grants and loans, and providing technical support (offered through public offices) would make it easier for entrepreneurs to access different funds.

In general, there is a need to design financial and capacity building programmes tailored to the specific needs of women entrepreneurs. These programs should consider the unique challenges faced by women entrepreneurs in different rural areas and in the context of projects focusing on different sustainability dimensions: such as geographical isolation (all dimensions of sustainability), limited access to markets (especially projects focusing on economic sustainability), limited access to land and water (especially projects focusing on environmental sustainability).

4.3.2 FARMING INNOVATION

Most of the women in both countries and leading projects focusing on different sustainability dimensions have received some sort of funding support, mainly through the regional and national provisions of CAP. These funds have been used for various purposes, including buying equipment, investing in renewable energy solutions (in Spain), and implementing water-saving irrigation systems (in Spain). In some cases, access to these CAP-related funds also implies the requirement to follow specific agricultural courses. In Italy, for instance, at least two women followed specific agricultural-related courses as they accessed the “Setting up young farmers” intervention of the CAP. Such courses were often below the expectations of these women, particularly as they did not particularly focus on environmental sustainability (e.g. by teaching organic and biodynamic or regenerative farming practices) but mostly on more conventional agricultural practices. They were still useful for creating opportunities of networking and collaboration with other women farmers. On the contrary, in Spain, most women got support to participate in training programs focusing on organic farming techniques, sustainable agricultural practices, and business management. One specific example is a series of workshops on organic certification attended by a woman farmer in southern Spain. This training allowed her to successfully obtain certification for her farm, which greatly improved her marketability and sustainability practices. This workshop was organized by a local agricultural association and funded by regional CAP allocations, providing both technical knowledge and certification pathways.



In Spain, in some cases, local governments also provided grants or subsidies, especially for initiatives aligning with local sustainability goals or rural development plans. For instance, an innovator setting up a small-scale biodynamic vineyard –a project focusing on environmental sustainability- received some funds from the local municipality to support initial setup costs, as the local administration recognized the project's potential to promote sustainable agricultural practices in the region.

Despite these experiences, in both countries, many other women leading projects across different sustainability dimensions reported facing challenges in accessing support, often due to a lack of information or bureaucratic hurdles. In some cases, women mentioned how the criteria for funding were not well-suited to small-scale or women-led projects, especially those focusing on organic, biodynamic and regenerative farming.

Overall, women often feel a lack of support from local and national authorities. They often feel that public authorities and large organizations do not really support “alternative” types of agriculture (e.g. agroecological practices, organic, biodynamic, regenerative farming) that do not align with mainstream commercial practices. In this regard, most often, women farmers find support and gain specific farming knowledge through associations and networks that are not sponsored by the government, or very often they develop most of their skills in a self-taught way.

4.4 SCALING IN

4.4.1 RURAL INNOVATION

In both countries, women appreciate when they get support from organizations and institutions in terms of training and development programmes as these help them to improve their business, technical, and managerial skills. Some of the women interviewed in both countries, received technical training. Nevertheless, institutional support for women entrepreneurs (leading businesses focusing on all types of sustainability dimensions) should be improved. These services could include support for women to develop successful business plans, identify market opportunities and navigate the complexities of starting and running a business in different types of rural areas. Moreover, guidance –offered by public officers or government-sponsored organizations- on accessing and managing finances would empower women entrepreneurs (especially those focusing on economic sustainability) to make informed decisions about investments and funding. Assistance in navigating the legal and regulatory frameworks could also significantly reduce the administrative burden on women entrepreneurs.

Providing public spaces also proved to be a successful form of support for women, especially for those leading social projects through non-profit organizations, whose objectives are community engagement and social inclusion.

Moreover, strengthening and providing support to networks of women entrepreneurs is also key to amplify women’s collective voice and to address their needs. Moreover, encouraging collaborative projects between women entrepreneurs and public institutions



can help strengthen private-public collaborations also fostering gender equality and all sustainability dimensions.

Research findings in both countries suggest that direct engagement of women in relevant roles in public administration or local business associations/consortia can be a way to foster these changes and improve support for women.

4.4.2 FARMING INNOVATION

Women in both countries, in the context of projects focusing on different sustainability dimensions and in different types of rural areas, do not really feel particularly supported by institutions and organizations. Training support programmes and capacity building programmes, especially in relation to alternative (organic, biodynamic, and regenerative) agriculture are scarce and most often not targeting women and small farms specifically.

In the cases when such support programmes are available, women appreciate them and are really eager to engage, as they have the chance to learn new farm-related skills and connect with other (women) farmers, as well as share their knowledge.

In most cases women had to learn skills by themselves or by self-financing courses and training promoted by informal groups and networks. In rural areas, self-taught methods and peer-to-peer learning are common, especially when there is limited access to formal advisory services. Some women have taken courses offered by agricultural cooperatives, AKIS (in Spain) or local NGOs, but often these are not enough to fully develop the required knowledge.

The importance of women farmers/entrepreneurs' networks is emphasized in both countries and across projects focusing on different sustainability dimensions. More opportunities for confrontation, dialogue and exchange between networks of women and institutions (especially local institutions) and organization should help both public institutions and private organizations to better know how to tailor their programmes to better support women farmers.

In Italy, none of the women mentioned or knew about AKIS. In Spain, knowledge of AKIS appeared to be diversified. Some women did not know about it, but some women did and used its resources to access the latest research, technology, and best practices in agriculture. Women focused on environmental sustainability (e.g., those practicing agroecology or organic farming) are more likely to know about AKIS and use its resources to stay updated on the latest research, technology, and best practices in sustainable agriculture. These women often participate in training sessions or field trials organized by research institutions and agricultural cooperatives affiliated with AKIS. On the other hand, women working on economic sustainability projects, such as those managing farm-to-table initiatives or agritourism, may have less knowledge about AKIS and its resources. While they often rely on local business networks or tourism organizations for support, they are less likely to be aware of agricultural research and



technical innovations facilitated by AKIS. In any case, information about AKIS should be improved in both countries, through regional support programmes or through local LAGs.

4.5. SCALING DEEP

4.5.1 RURAL INNOVATION

Women, who succeed in leading businesses in male-dominated sectors and in rural areas dominated by patriarchal social norms, can become role models and inspire other women to develop their innovative ideas. Research findings in both countries suggest that habits, beliefs, and social relations are starting to change thanks to these women's innovative actions. This impact is more visible at the local level but can have broader resonance as some businesses became particularly successful and gained visibility at the national level. In fact, while all women work locally, many also implement communication and marketing strategies that target national and international markets, selling products abroad and/or targeting tourists.

Women leading rural projects focusing on all different dimensions of sustainability bridge environmental and gender justice, showing (especially to the young generations) how women can lead and influence positive change towards more sustainable and equitable rural worlds. Some women are more explicit and outspoken than others in this regard, as they organize public events (e.g. on women's rights and gender equality) or demonstrations (e.g., to advocate for the creation and maintenance of women's counseling centres and kindergartens) or they actively speak about the importance of supporting women's businesses –and in so doing they inspire other women- within their local communities. In this regard, women-led projects that focus particularly on social and cultural sustainability should be financially supported (through local and regional grants and the provision of public spaces) as they are often non-profit associations with limited profit margin – yet they play crucial roles in fostering a sense of community in specific rural areas, social inclusion and gender equality.

Gaining financial independence and success thanks to their innovative businesses is an important achievement for women, especially in those areas particularly dominated by patriarchal social norms, and where women live rather isolated lives as services and infrastructures are poor. Being financially independent or being able to importantly contribute to the family income also often means gaining more power within the household, to influence decision-making processes of all kinds.

By assuming important roles in local associations or institutions (particularly women leading social sustainability-related projects), women can participate in decision-making processes, giving voice and visibility to the specific challenges and needs of women entrepreneurs and importantly influencing decision-making processes. In this regard, the participation of women in local, regional and national entrepreneurs' associations, as well as in public institutions –especially at the local level- shall be supported, taking into



consideration how women struggle to manage domestic/care work (especially if they are mothers), business work and public/political life.

Moreover, although women entrepreneurs are great in developing successful marketing and communication strategies, it is important to increase their public visibility by narrating their stories through public media and platforms, advertising their work and providing them with public spaces where they can develop their activities as well as advocating for the rights of all women.

Besides, it is fundamental to create the social conditions for women to be able to develop their business ideas, in a way that allows them to conciliate their private life with their working life. Kindergartens and maternity and paternity leaves permits are just some of the services that need to be granted in all types of rural areas, in both countries. Moreover, educational activities promoting gender equality (and challenging gender norms) should also be promoted to foster a wider and real social and cultural change.

4.5.2 FARMING INNOVATION

In both countries and in all types of rural areas, women managing farming businesses in innovative ways (across different sustainability dimensions) contribute to changing gender norms and behaviours, as they take on roles historically performed by men. They can become role models for other women in rural areas, slowly changing a male-dominated sector. With women as farm leaders, farms become much more than just farms: they become kindergartens, centers for educational activities for both children and adults, upcycling factories, meeting places to carry on political battles for the rights of local people, and especially for women (e.g. access to counseling centers, public transport, childcare).

Moreover, as environmental concerns and sustainability are at the core of all projects (even those that concern more other sustainability dimensions), women influence societal values and behaviours by spreading awareness about environmental conservation and re-generation, and advocating for more ethical and healthy consumption habits, particularly in relation to food consumption. This is done through their everyday work in the farm, and especially in the context of projects that focus particularly on environmental sustainability, as women practice organic, biodynamic, regenerative farming, often taking on an agroecological approach– to respect soil and existing water resources, trying to not exploit or damage the local ecosystem (e.g. using chemicals).

In the context of projects focusing on social and cultural sustainability, women engage directly with communities, spreading values about social inclusion and about the importance of educating children and adults to live in harmony with nature, respecting its rhythms. At the same time, they normalize the fact that women can manage farms, dress as farmers, raise animals – often while also being mothers. In doing so, women contribute to address the challenges caused by climate change and educate people to



take on more sustainable behaviours, particularly contributing in shifting future generations' perceptions of both gender roles and farming.

For what concerns projects focusing on economic sustainability, women play an important role in enhancing new ways of making profit: making eco-tourism and agrotourism-related practices more sustainable and attentive to the environment and prioritizing short supply chains that connect directly producers and consumers. In this way, they make profit while also educating people about the origins and ethics of what they eat and consume and about the value of eating locally and healthily. When they can, as women hire other women within their farm projects, they contribute to foster networks of care and solidarity as well as to the economic independence of other women, in male-dominated areas.

When women assume important roles in local associations or institutions, they play an important role in influencing decision-making processes, giving voice and visibility to the specific challenges and needs of women farmers.

In any case, there is a need to further support financially as well as through the provision of public spaces, education and awareness campaigns about women's roles in farming and the potential of multifunctional farms led by women. Besides, and perhaps most importantly, there is a need for more targeted agricultural policies addressing women's specific needs and challenges. This includes policies that provide equal access to resources like land, capital, and training for women as well as maternity leave for women farmers/entrepreneurs, childcare and counseling centres for women – especially in rural villages and remote rural areas.

5. SUMMARY OF FINDINGS

Motivations for Innovation: Rural and Farming

Within the context of the Mediterranean region (Spain and Italy), the women interviewed started their innovative projects motivated by the desire to live and work close to nature, far away from crowded and trafficked cities, most often in a rural area where they grew up or where they had a special connection. At the same time, they all aspire to boost the sustainability and quality of life of a specific rural area, producing high-quality healthy products and/or offering different services either for local people or for tourists.

Women who inherited the farm/business were also motivated by the desire to continue a family tradition while finding ways to rethink and innovate it with a focus on environmental issues.

Most farm innovators are driven by a deep concern about environmental and climate change: they feel an individual responsibility to do something to address these issues, conducting a life that is more sustainable, enhancing local resources and spreading awareness among people around them. On their end, women engaged in rural



innovations, often aim at fostering community engagement and social inclusion in their rural area, while aiming to run an economically sustainable business.

Challenges and constraints in Rural and Farming

Rural areas are still governed by profoundly patriarchal social norms and women struggle to juggle between care work and business management. This is a major challenge, especially felt by women involved in farm innovation, which is a very male-dominated field. Being a mother is even more challenging as in both countries maternity leave for self-employed women is not generous and childcare facilities are not always available in rural areas.

Financial constraints is another challenge for most women interviewed, involved both in farm and in rural innovation. Although many women accessed some grants at some point of their business/farm development, most complain about the lack of grants and support programmes targeting women and small/alternative businesses. Grants most often entail complex application procedures and bureaucratic requirements, or they are granted upon the investment of an existing capital, which women cannot afford. Moreover, women involved in farm innovation highlight how most public grants support traditional commercial agriculture rather than organic, biodynamic, or regenerative farming projects.

Favourable conditions in Farming and Rural areas

Inheriting a farm, a business or an asset is definitely a great opportunity for women innovators. Besides, getting support from the local municipalities (through the provision of spaces, land plots, other resources), receiving help both from family members and/or friends (e.g. helping with everyday business work or childcare), being actively involved in local networks and organizations (of farmers, entrepreneurs) are important form of support mentioned by women in both countries.

Ideas and Preparations Activities

Women have followed different paths to start or maintain their innovation. Many acquired their skills and knowledge through a process of trial and error; others attended training courses or trained themselves (e.g. using the Internet). In particular, it emerged that training on sustainable agricultural practices (e.g. organic and biodynamic) is hardly provided by public institutions, so women had to learn skills on their own or self-finance themselves through courses and training promoted by informal groups and networks. Most women started their business with their own savings and resources and applied for grants at a later stage. Particularly in the early stages, support, including financial support, from family members played an important role in enabling many of them to develop their projects. Access to public funding, it was pointed out in both countries, is complex, time-consuming and often requires upfront capital. As a result, public funding was often sought at a later stage, when the activity was already underway. The support received in some cases from local authorities, through the provision/rental of land or premises, was important in enabling some experiences to get off the ground.



Concretisation of the innovation

The tangible outcomes of farming and rural innovations are diverse and impactful. Great attention and respect for the local ecosystem is a commonality of most of all the experiences analysed.

Almost all farming innovators practice organic farming, even if they do not all have the official certification. Several projects go even further by integrating biodynamic, regenerative and synergic farming practices. The vast majority of the farming practices analysed prioritises the conservation of local crop varieties and animal breeds, contributing to agrobiodiversity and ecological resilience. In Spain, most farms have integrated solar panels and small-scale wind turbines. Some rural innovators developed projects based on circular economy principles, for instance upcycling or recycling local products to produce new items, while reducing waste and carbon footprints.

Many projects (rural and farming) have a strong community engagement component, offering spaces and organizing events and workshops that strengthen social ties and a sense of community (especially in rural villages and remote rural areas). All the projects analyzed also contributed to strengthening the local cultural identity, either enhancing the value of local products and/or the local historical and cultural heritage (across rural typologies).

Impacts of women-led innovations

All projects interweave different dimensions of sustainability (social, cultural, economic, environmental, technological), contributing to making rural areas more attractive, livable and sustainable. Many projects foster community engagement and social inclusion; as well several of the innovations have led to the creation of new jobs, contributing to local economic development. Farm innovators focus particularly on developing organic, biodynamic and regenerative farming projects, respecting nature's rhythms and taking care of the local ecosystem. They also offer farm-related services such as agritourism, farm kindergartens and educational workshops for adults and children. The rural innovators, on their end, focus on developing businesses that enhance the local environmental, cultural and artistic heritage, attracting tourists and boosting the local economy as well as enhancing local engagement and a sense of community. Producers and consumers are directly connected through women-led innovations, challenging mainstream and commercial consumption habits and re-centering the sustainability of life and wellbeing in a specific rural area.

Furthermore, women's agency challenge gender stereotypes, especially in male-dominated fields such as farming, contributing to foster gender equality in rural areas.

Ecosystem:

In order to build a strong ecosystem for women-led innovations on farms and in rural areas, it would be necessary to develop support policies specifically targeting women and small-scale agriculture/enterprises.



Mainstreaming Actions

Women innovators are driving significant change mainly at local level.

Women's involvement in agriculture has started to reshape how agriculture and sustainability are viewed and managed. In several cases rural and farming women innovators have broadened their activities, reaching out to a wider audience and selling their products/services through broader national and even international markets.

In Italy, none of the women mentioned or knew about AKIS. In Spain, knowledge of AKIS appeared to be diversified. Some women did not know about it, but some women did and used its resources to access the latest research, technology, and best practices in agriculture. In any case, information about AKIS should be improved in both countries.

Women who succeed in leading businesses in male-dominated sectors and in rural areas dominated by patriarchal social norms, can also inspire other women to develop their innovative ideas. Research findings in both countries suggest that habits, beliefs, and social relations are starting to change thanks to these women's innovative actions.

Policy recommendations suggested by women

Enhancing access to financial resources through targeted grants, loans, and subsidies specifically designed for rural and women-led businesses and farm could address significant barriers, especially to support women in the early phases of their businesses' establishment.

Offering technical and advisory support services as well as courses would help women navigate the early stages of business development as well as further expansions of their businesses.

Making public spaces (including land plots) more readily available at favourable conditions for the development of women enterprises and providing venues where women can meet, start collaborations, organize events and markets, would be a great support local governments could provide. Besides, enhancing collaborations and dialogue between the public and the private sectors is thought to be crucial for rural development.

Improving infrastructures and the availability of services (e.g. public transport, childcare facilities, broadband and internet connections mainly in Spain) as well improving maternity allowances is also suggested.

Encouraging the active involvement of women farmers and women entrepreneurs in general in institutional bodies, as the report suggests this is always positive for political change towards gender equality and environmental sustainability.

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