RUSTIK

Synthesis of the fourteen Pilot Regions reports

Francesco Mantino

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Introduction

This report responds to the needs mentioned in Task 1.2 of the RUSTIK project:

The task aims to conduct a preliminary analysis of existing data and stakeholders' information to formulate a description of 14 Pilot Regions: functional characteristics and their position/needs about the three transition themes; relevant strategies for the future; elements of strength and weakness; data gaps and needs for additional information, etc.

This analysis relies on examining available data and documents, interviews of key actors, focus groups with local stakeholders involved in the Living Labs and existing literature on the selected Pilot Regions.

This task is structured in three steps:

- → A desk analysis of the existing literature on the Pilot Region
- → Focus groups with LL actors
- → First inventory of available data

All these steps are functional for collecting the needed information to draft the Pilot Region Report.

Desk analysis has been preceded in some cases by one or two preliminary meetings with significant LL actors to explore the most critical issues (relevant differences within the territory, strengths and weaknesses, relevant transitions, and strategies).

But there is no rigid procedure to follow in this respect: it depends on the research team's previous knowledge/relations. Therefore, desk analysis can also be implemented in parallel with a preliminary meeting.

The report is structured into two main sections.

The first section deals with a comparative analysis of the 14 Pilot Regions (PRs) characteristics based on data and information gathered by the research teams and the Pilot region reports' description. This analysis considers demographic and socio-economic information for the Pilot Regions to be explored and improved in the next steps of the research project.

The analysis of the 14 PRs has been coordinated by the WP1 lead and is based on specific guidelines and reporting templates.

The second section explores the most relevant transition processes (socio-economic, demographic, environmental-climatic and digital) and related strategies to cope with transition challenges, as they have been explored through focus groups and interviews organised in each living lab. The section includes an analysis of the main information gaps emerging from the work conducted in this task in the different PRs.

1. The fourteen Pilot Regions

1.1 Geographical representation

The 14 Pilot Regions are located in eight EU Member States (Germany, Austria, Spain, Finland, Italy, Slovenia, Poland and Bulgaria), and two associated countries relevant for EU policy learning (Serbia and the UK). The biggest countries coordinate two Pilot Regions each (Italy, Spain, Poland and UK), whereas the others only one.

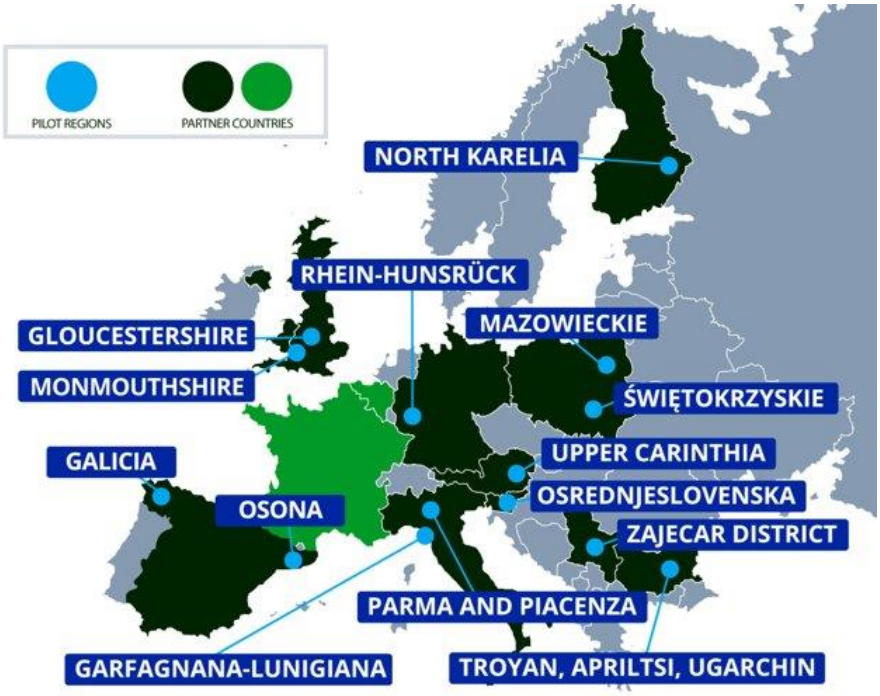

Figure 1 RUSTIK partner countries and Pilot Regions

1.2 Population and institutional aspects

Pilot Regions (PRs) include a sample of diverse types of rural areas. NUTS level, geographical coverage, population size, population density and type of governance might differ from PR to PR.

To simplify the analysis of PRs and understand better the internal differences among them, two main general clusters can be defined, as illustrated by table 1:

a) A group of eight broad regions characterised by NUTS3/NUTS2 full coverage and a population size close to or over 100,000 inhabitants. In particular, the Pilot Regions of Swietokrzyskie (PL) and Parma-Piacenza-Ferrara (IT) (Parma for the sake of brevity) include more than one NUTS3 region and reach more than one million inhabitants.

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This group also includes a greater variety of situations regarding settlements, socio-economic contexts and types of rurality.
The number of municipalities is very high in some cases (more than 100 in three PRs) due to the very high fragmentation of the municipal structure, more than to the population size. The regional authority/council or a development agency is the main institutional reference body, both in the governance of the concerned territory and living lab (LL) main project partner at the territorial level. In two cases, Parma (IT) and Osrednjaslovenska (SI), the institutional actor of reference is a mix of different sectors and types of organisations, including agricultural and industrial stakeholders (Parma) or national public and private ones (Osrednjaslovenska).

Table 1 General features of the fourteen Pilot Regions

Pilot Region's name	Country	Territorial level	No. of municipalities included	Population	Population density (Inhab./Kmq)	Relevant territorial partners
A. Macro regions						
Monmouthshire	UK	NUTS3	?	93,000	106	County Council
Zajecar District	Serbia	NUTS3	4	97,778	27	Regional Development Agency
Rhein-Hunsruck	Germany	NUTS3	137	103,767	107	Regional council authority
North Karelia	Finland	NUTS3	13	163,281	7	Regional authority
Gloucestershire	UK	Group pf rural districts (LAU2)	4	397,824	185	County Council
Osrednjaslovenska	Slovenia	NUTS3	25	555,293	238	Mix of national institutional actors
Parma-Piacenza-Ferrara	Italy	NUTS3	127	1,071,974	124	Inter-branch organisation (private body)
Swietokrzyskie	Poland	NUTS2	102	1,187,693	101	Regional authority
B. Small regions						
Osona	Spain	Individual municipality	1	1,353		Local authorities
Troyan-Apriltsi-Ugarchin (TAU)	Bulgaria	Group of LAU2	3	35,815	22	LAG
Mazowieckie (Zydlowiecki district)	Poland	Group of LAU2	5	38,983	86	Municipal and district-level authorities
Galicia	Spain	Group of LAU2	20	40,652	15	Regional development agency
Nockregion-Uberkarnten	Austria	Group of LAU2	17	52,421	40	Regional development agency and LAG
Garfagnana (Montagnappennino)	Italy	Group of LAU2	35	87,585	60	LAG

Source: Pilot Region Reports, author's own comparative elaboration

b) The second group comprises small regions (below NUTS3 level and part of NUTS3) and includes a variable number of LAU2-municipal administrative units as part of the greater district/region. Most of them are between 35-50,000 inhabitants (except for Garfagnana-IT). Osona-ES is an outlier in this group since it is represented by only one municipality.
Different reasons can justify these small aggregations of municipalities: districts of a NUTS3 region (i.e., the Mazowieckie (Zydlowiecki district- PL)); components of a LAG area (Garfagnana-IT and Troyan-Apriltsi-Ugarchin (TAU)-BG); municipalities participating to a local partnership for land management (i.e., Galicia-ES).

As we will see, this group definitely includes more rural and low-density population settlements. Local authorities and institutions represent the reference bodies for the governance of main policy interventions and working activities of LL actors

1.3 Rurality in RUSTIK Pilot Regions

Pilot regions' reports have classified municipalities (LAU2 level) in three typologies, according to the common EUROSTAT classification grid (EUROSTAT, 2021) based on the degree of urbanisation (DEGURBA): cities, towns and suburban areas, rural areas. The advantage of this methodology is a finer-grained definition of the territorial typology, even below the LAU2 level. Furthermore, it defines common criteria to overcome the heterogeneity of rural definition in EU countries (Mantino, Forcina and Morse, 2023).

Table 2 Distribution of land and population in the 14 RUSTIK Pilot Regions among typology of urban-rural definition (DEGURBA)

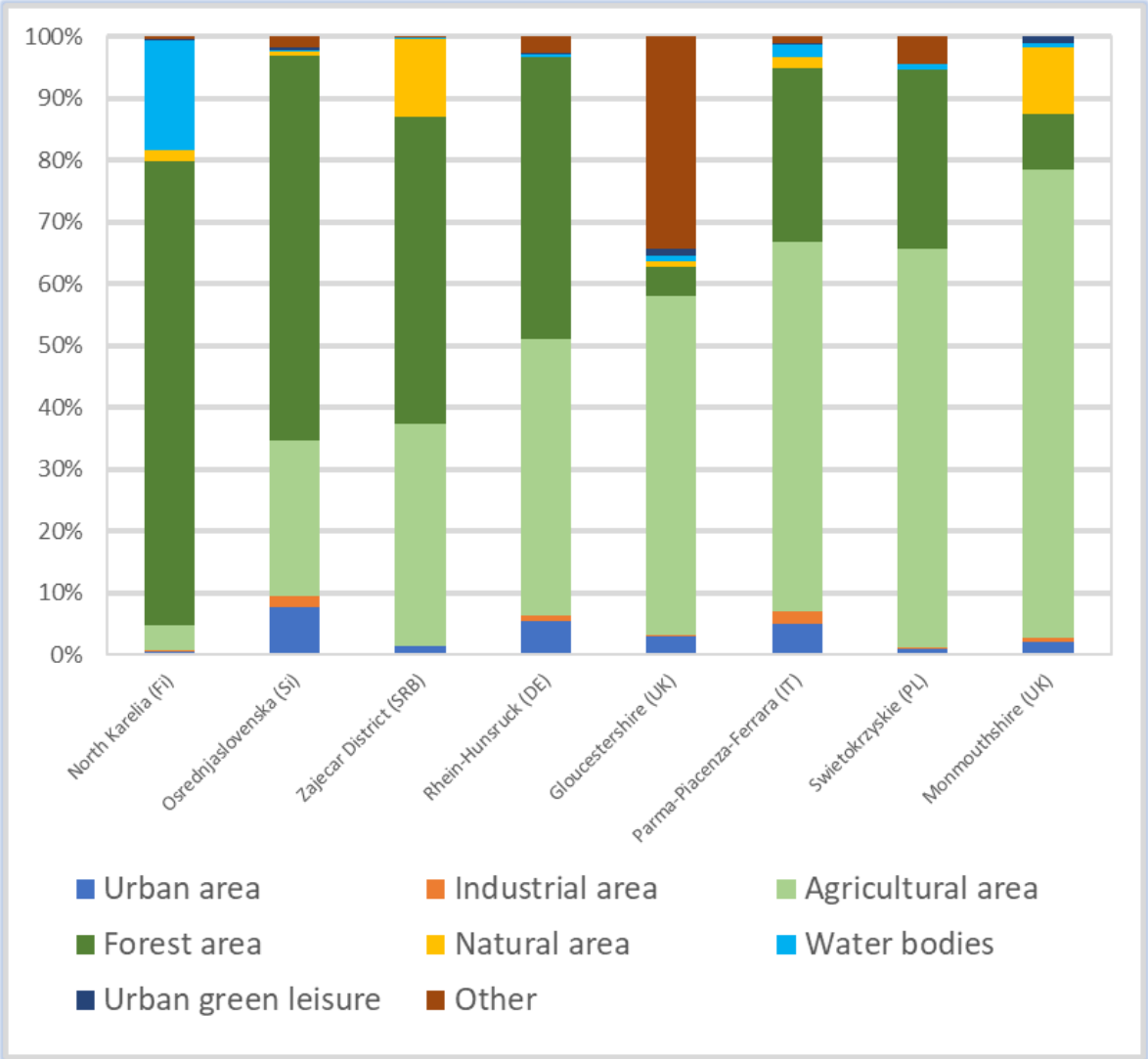
	Total area			Total population		
Pilot Region's name	Cities	Towns and suburban areas	Rural areas	Cities	Towns and suburban areas	Rural areas
A.Broad regions						
North Karelia (Fi)		12,0%	88,0%		47,0%	53,0%
Swietokrzyskie (PL)	1,3%	12,7%	86,0%	21,3%	23,3%	55,0%
Monmouthshire (UK)		14,2%	85,8%		53,0%	47,0%
Rhein-Hunsruck (DE)		14,2%	85,8%		36,9%	63,0%
Gloucestershire (UK)		15,9%	84,0%			
Parma-Piacenza-Ferrara (IT)	9,3%	23,2%	67,5%	39,9%	30,0%	30,1%
Osrednjaslovenska (SI)	11,8%	42,6%	45,6%	52,8%	31,1%	16,1%
Zajecar District (SRB)		62,7%	37,3%		75,8%	24,2%
B. Small regions						
Galicia (ES)			100%			100,0%
Garfagnana (Montagnappennino) (IT)		11,4%	88,6%		35,6%	64,4%
Nockregion-Uberkarnten (AT)		7,0%	93,0%		41,0%	59,0%
Mazowieckie (Zydlowiecki distr. PL)					46,0%	54,0%
Troyan-Apriltsi-Ugarchin (TAU) (BG)		54,0%	56,0%		77,3%	22,7%
Osona (ES)		13,6%	86,4%		75,9%	24,1%

Source: Pilot Region Reports, author's own comparative elaboration

In macro-regions, the share of rural areas is between two/third and 88% in terms of surface and above 50% of the population (table 2). The largest areas (Gloucestershire-UK, Osrednjaslovenska-SI and Parma-IT) appear less rural as regards the population (but not necessarily for the rural surface) than others due to the presence of big cities in the NUTS3 units. The smallest PRs show more substantial prevalence of rurality in terms of surface and population.

Land use in the fourteen PRs is dominated by agricultural activities and forestry but with different intensities. Forest areas prevail in North Karelia-Fi, Osrednjaslovenska-SI and Zajecar District-

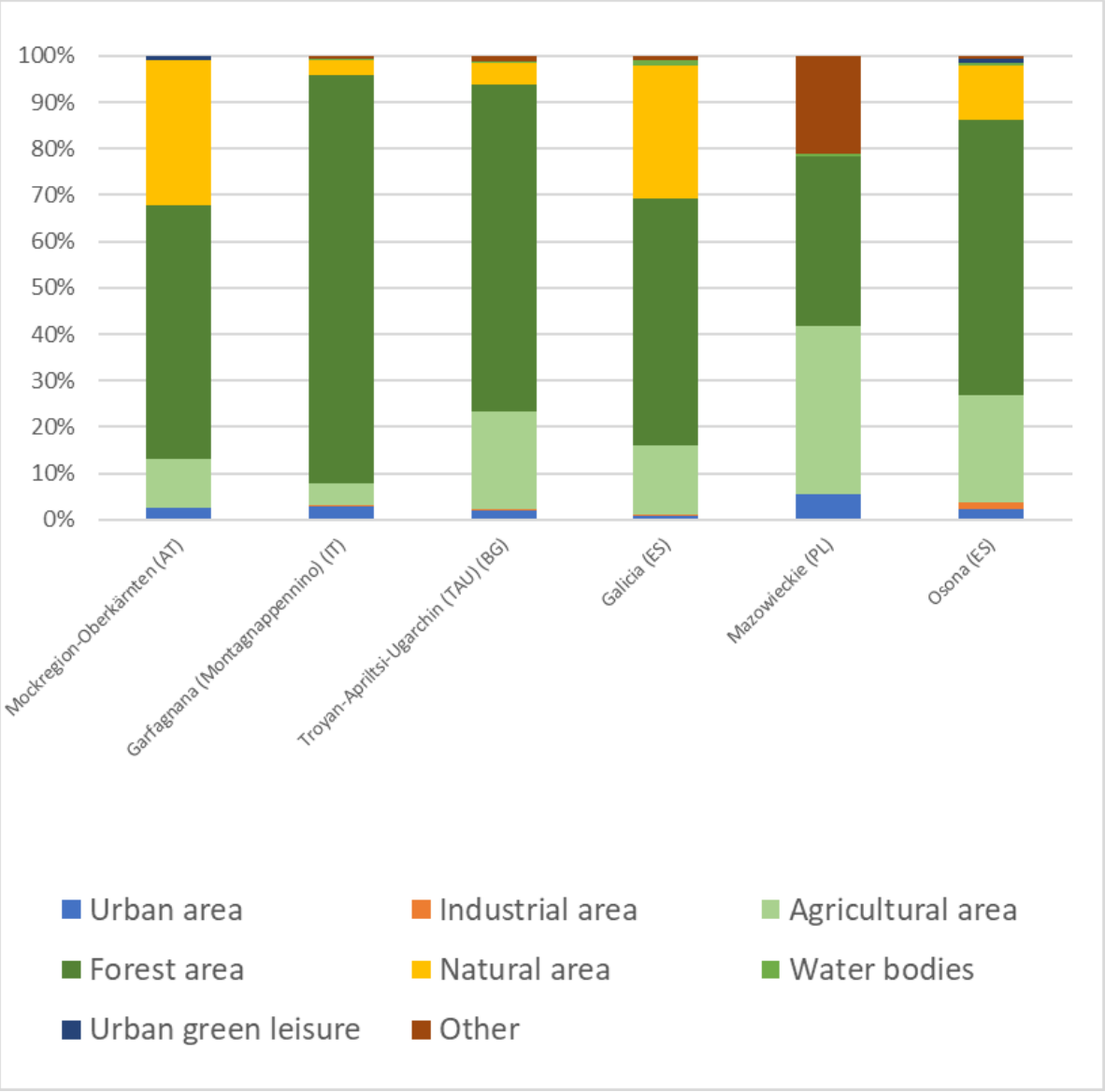
SRB, among the macro pilot regions (figure 2). Agriculture is the predominant use of soil in three regions: Parma-IT, Swietokrzyskie-PL and Monmouthshire-UK. The agricultural share is between 60 and 75% of the total area in these three regions, and this topic is emerging as an essential transition issue (both in relation to socio-economic and climate-environmental transitions) in discussion with LL stakeholders.



Source: Pilot Region Reports. author's own comparative elaboration

Figure 2 Land use in RUSTIK Pilot Regions according to the DEGURBA classification: NUTS2-3 regions

The importance of forestry is even more significant in small aggregations of municipalities (Garfagnana-IT; Troyan-Apriltsi-Ugarchin (TAU)-BG and Galicia-ES) (figure 3). This importance is mirrored in transition challenges and policy design, so that forest management and valorisation is deemed as crucial by local stakeholders interviewed during the focus groups. This holds both for climate-environmental transition and the creation of opportunities for labour in forest areas.



Source: Pilot Region Reports. author's own comparative elaboration

Figure 3 Land use in RUSTIK Pilot Regions according to the DEGURBA classification: small regions

1.4 Demographic change and related challenges

Demographic change, measured by the average population change rate between 2001 and 2021, is generally negative in all Eastern Pilot Regions and the smallest areas (table 3). Conversely, in a group of macro-regions (the two UK regions, Rhein-Hunsruck (DE), Parma (IT) and Osrednjaslovenska (Si)), population increased over the period 2001-2021.

Table 3 Demographic indicators of RUSTIK Pilot Regions

Pilot Region's name	Annual Pop change rate (2000-2021)	Fertility rate 2021	natural pop change rate	Net migration rate
A. Broad regions				
Zajecar District (SRB)	-1,70	1,20	-23,00	-0,70
Swietokrzyskie (PL)	-0,42	1,23	-8,15	-1,90
North Karelia (Fi)	-0,35	1,34	-5,32	4,40
Rhein-Hunsruck (DE)	0,10	1,73	-0,45	8,10
Parma-Piacenza-Ferrara (IT)	0,34	1,28	-6,80	8,00
Osrednjaslovenska (Si)	0,63		0,10	0,10
Monmouthshire (UK)	0,80	1,61	-3,45	9,10
Gloucestershire (UK)	1,50	1,70	-2,60	8,90
B. Small regions				
Troyan-Apriltsi-Ugarchin (TAU)	-1,46	1,88	-22,06	-1,10
Galicia (ES)	-1,09	1,01	-1,52	1,10
Garfagnana (Montagnappennino)-IT	-0,44	0,94	-12,00	1,90
Nockregion-Oberkärnten (AT)	-0,33	1,50	-0,62	0,42
Mazowieckie (Zydlowiecki distr. PL)	-0,28		-	
Osona (ES)	1,39	0,97	-1,18	10,40
EU-27 countries**	1,37	1,53	-2,70	1,90

Source: Author's own comparative elaboration

Table 3 shows some significant demographic indicators concerning the situation of the 14 PRs. Comparing population change with fertility rate, natural change rate, and net migration rates allows us to understand some interesting similarities and differences among PRs:

- Among the macro-regions, North Karelia (FI) loses population despite the positive migration balance, which cannot compensate for the low fertility rate (even lower than the EU-27 average) and negative natural change. This negative trend will continue in the future; the population will decrease by almost 10 % by 2040, even if the net migration was positive during the entire period. In the group of macro-regions, favourable change rates of the population strongly depend on very high and positive net migration rates,

which compensate for the negative natural change rates. This effect is particularly evident in Rhein-Hunsruck-DE, Parma-IT and the two UK Pilot Regions. In all these PRs, the net migration rate is four times as high as the EU average (table 3);

- In some small regions like Galicia-ES, Garfagnana-IT and Nockregion-Oberkärnten Oberkärnten-AT, the immigration process remains a vital factor in maintaining a population threshold necessary for the territory. The fertility decline is a long-lasting process, notably due to the declining share of females of childbearing age over time. Inside immigration flows, foreign immigration has played a positive role, even better than domestic migration, but less than observed in non-rural areas (for example see the cases of Garfagnana-IT and Nockregion-Oberkärnten-AT);
- There are significant internal territorial diversities, notably in the largest Pilot regions. Demographic shrinking is not equally distributed across municipalities but is concentrated in some areas;
- First of all, demographic shrinking is concentrated in mountain areas. For example, in Parma-IT and Nockregion-Oberkärnten-AT, municipalities on plain/valley territory gain population over time due to traditional urbanisation processes. But it is worth noticing that demographic decline is less intense in those mountain municipalities closer to valleys/towns due to the daily commuting to urban labour markets;
- Similarly, demographic shrinking is an issue for the most remote municipalities (not necessarily mountain areas) due to the continuous depleting of services of general interest and parallel process of services' concentration in urban/periurban centres (i.e., North Karelia-FI; Monmouthshire-UK and Swietokrzyskie-PL).

Demographic change does not follow a clear and explicable pattern in all pilot regions. Sometimes, population shrinking is scattered across the territory (i.e., in the case of Rhein-Hunsrück-DE) (see Figure 4).
In other cases, population decline does not overlap with mountain or the most remote areas, but with problems of access to services, lack of economic opportunities and more generally different forms of socio-economic deprivation (i.e., the cases of some territories of Parma PRs and Monmouthshire (UK)).
These interesting "anomalies" have been pointed out in the recent literature (Noguera et al., 2017; Copus et al., 2020; Mantino-Forcina-Morse, 2023) and would require more careful understanding in the analysis of functional rural areas that are going to be defined at the European level (Dijkstra and Crisioni, 2023).
The analysis of the demographic profiles of PRs could be overlayed with the definition of functional areas produced by European Commission's Joint Research Centre JRC, to verify the internal features of Functional Rural Areas (FRAs) and their comparability across the space. This hods true notably for the macro-regions, which show the greatest internal variability.
The analysis confirms only partially the influence of urban centres on demographic dynamics. Unless there is any significant urban centre but more small cities or urban settlements spread over the territory, the demographic profile seems more complex. It does not follow the traditional urban dominance pattern. Poli-centric population distribution probably implies a catchment area larger than that encompassing a single urban centre and the municipalities around it.

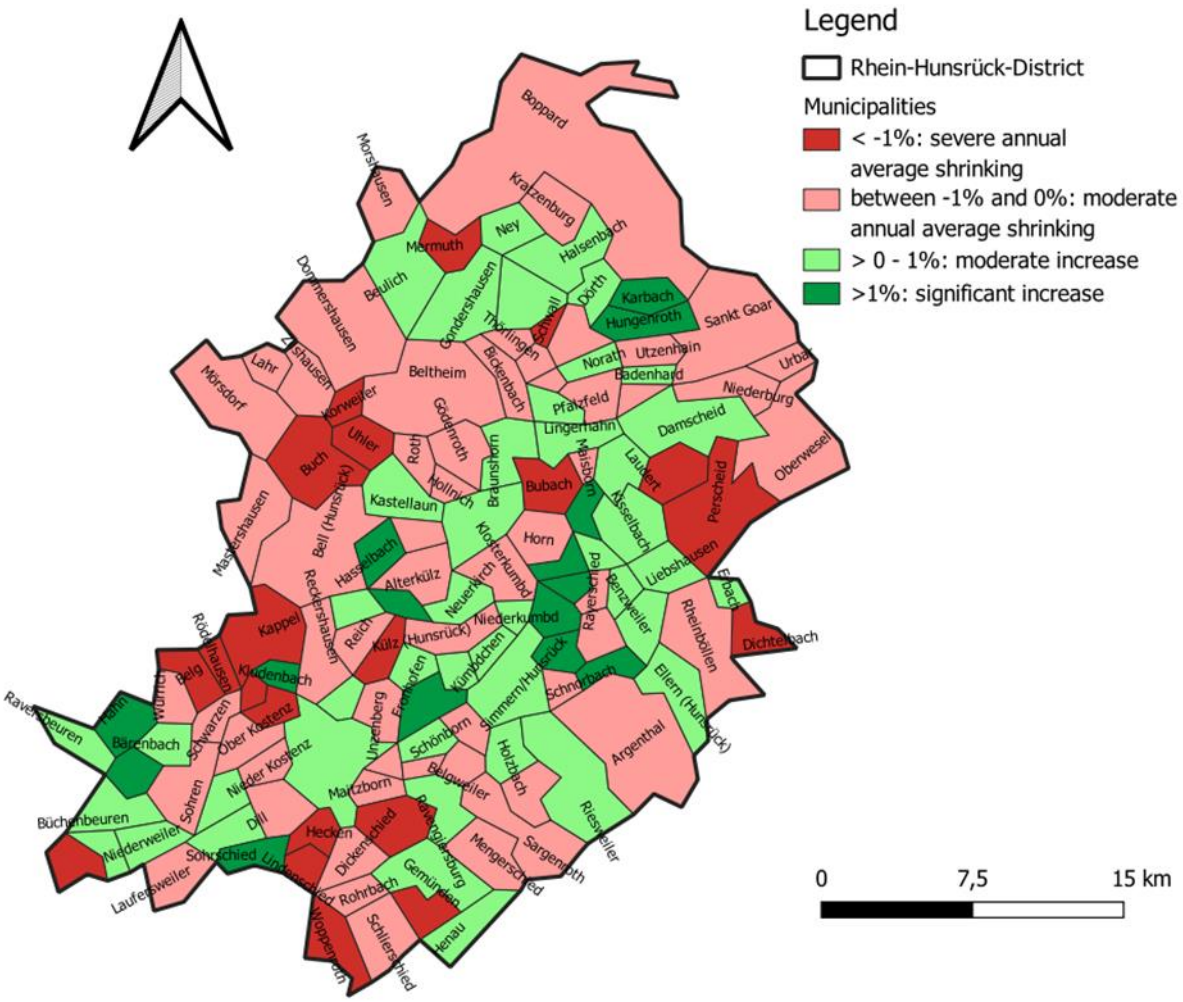


Figure 4 Average annual change rates of the resident population from 2011 to 2021 (based on data from StaBuL 2023)

Source: Pilot Region Report Rhein-Hunsrück, 2023

2. Diversity of rural areas and transition challenges

2.1 Methodology

Focus groups in each PRs have been organised after the desk analysis of the documents collected about the Pilot Region.

There were different groups of people involved in the focus groups:

- → LL coordinators: they animated and steered the focus group. They also drafted/revised the report based on the focus group's outcomes
- → LL participants: high representatives of the concerned territory in terms of awareness/knowledge of transition challenges and implemented policies. In fact, the perception of the importance of the different transitions is generally strongly influenced by the professional/sectoral experience of the participants' mix. Focus group were as much inclusive as possible. They also ensured the participation of the most important/influential stakeholders in the area.
- → Research team: components of the national research team participated and supported the focus group by stimulating discussion among participants, supporting the LL coordinator with information coming from the desk analysis, and finally summarising the outcomes of the focus group.
- → Depending on the number of participants and the transition challenges relevant for the Pilot Region, the focus group in some cases has been organised in sub-groups focusing on different topics (transistions and related strategies, available policies, data and indicators, etc.), involving different stakeholders.

It was suggested that the focus group examines the importance of all transitions for each pilot region and based on the outcomes of the focus groups, select those transitions which are vital/crucial for the region's future. In the selection of transitions, the linkages between them have been considered.

As regards data inventory, it was suggested that the PR's report considers:

- The main information which actors currently use in their analysis of the social, economic and environmental processes of changes;
- the gaps they feel in information at the Pilot Region level;
- which information are produced at the Pilot Region level which cannot be available in official national/regional sources.

2.2 Transition, transition challenges and how to cope with them

Summarising the emerging transition challenges is the most complex section of this report. Discussion with stakeholders of PRs and actors involved in the LLs allows for drawing general topics, sometimes in the form of broader needs rather than specific issues. In some cases, the discussion has been more focused; in others still general. In this latter case, the debate within the focus groups reflects the complexity of the issues at stake in the different transitions and the interdependence of the various challenges.

However, table 4 seeks to summarise schematically the main transitions emerging from the PR's report and, where possible, from the focus group discussions, the most significant transition challenges.

Table 4 Transitions and transition challenges in the RUSTIK Pilot Regions

Pilot region	Relevance: transitions addressed as the most important by focus group	Other transition in order of priority	More focused challenges
Zajecar District (SRB)	Socio-economic	Waste and water management	Transition from low income, stagnant and even declining activities to viable companies
Troyan-Apriltsi-Ugarchin (TAU) (BG)	Socio-economic and demographic	Digital skills and environmental (waste management)	Streamlining the State implementation of EU rules and programmes
Nockregion-Uberkarnten (AT)	Demographic	Climate and environmental; Digital	Lack of (skilled) workers and employees; Unequal allocation of public resources in favour of urban agglomerates
North Karelia (FI)	Socio-economic and demographic	Climate and environmental; Digital	Ageing; Population shrinking; High unemployment rate; Immigration; Multilocal working; Accessibility
Garfagnana (Montagnappennino)-IT	Socio-economic and environmental	Digital	Social inclusion of local actors; Ecosystem services and employment opportunities from forest management and valorisation
Parma-Piacenza-Ferrara (IT)	Demographic, environmental and digital		Mismatch between labour demand and supply; immigration inclusion; Water resources management; Digital innovation management
Monmouthshire (UK)	Socio-economic and demographic	Environmental and digital	Ageing, mobility and transport. Environmental and digital implications
Gloucestershire (UK)	Socio-economic and digital	Climate and environmental	Access to quality, affordable housing and healthcare. Intertwined with improved digital infrastructure and the necessary skills to engage in the digital world
Swietkrzyskie (PL)	Socio-economic and demographic, environmental and digital		Stop and reverse unfavorable demographic processes; Reduce floods, droughts and air pollution; Improve the access to telecommunication networks
Mazowieckie (Zydlowiecki distr. PL)	Socio-economic and eemographic		Outmigration of younger and well-educated residents
Galicia (ES)	Socio-economic and demographic, climate and environmental, digital		Access to housing opportunities; Sustainable forest management; Public trasports availability; Access to information technologies (age and educational level)
Osona (ES)	Socio-economic and demographic, environmental	Digital	Sub-regional inequalities; infrastructures' improvement; Water management; Sustainable forest management
Rhein-Hunsrück (DE)	Socio-economic and demographic	Climate and environmental, digital	shortage of skilled workers in almost all sectors of the economy
Osrednjeslovenska (SI)	Socio-economic and climate/environmental		Food waste and its relation to aspects of social inclusion and social entrepreneurship

Source: Pilot Region Reports, author's own comparative elaboration

The general issues which can be drawn from this analysis can be summarised as follows:

- There is an evident prevalence of socio-economic and demographic transition challenges, notable when the results of focus groups are reported. This result seems strongly consistent with the analysis of the demographic profiles of most rural areas;
- Demographic challenges are more often unfolded into more specific sub-challenges, including a broad set of factors (ageing, problems of particular categories and gender, educational aspects, etc.) (i.e., North Karelia-FI, Swietkrzyskie-PL, Mazowieckie (Zydlowiecki distr. PL));
- Socio-economic challenges include various labour market issues (unemployment, mismatch between labour demand and supply, lack of adequate vocational training) in rural areas of Western countries and transition from traditional and declining sectors in Eastern countries. Actions on facilitating the access to labour market of young, women and unemployed people are mentioned in several PR reports;
- Social inclusion is a crucial challenge in most of the PRs and is strongly related to labour market access and need to cover essential gaps in the service provision (health-care and social care in the context of an ageing population, health inequalities, etc.). Even more affordable housing in rural areas can be included in this context (i.e., Gloucestershire-UK and Galicia-ES);
- Interesting and more specific topics emerged in the climate-environmental transition;
- Increasing scarcity of water resources as the effect of climate changes (drought seasons) raises the need for a transition towards more effective water management. This issue has been strongly emphasized as transition challenge requiring public and private actions by Parma-IT, Swietkrzyskie-PL, Osona-ES;
- The presence of large forest areas in several PRs raises the specific challenge of forest management to create new economic opportunities (Garfagnana (IT)), set up a sound system against fires (Galicia-ES), or for multipurpose uses (ecosystem services and wood production) (Osona-ES).

Finally, one must notice that some focus groups (i.e., Troyan-Apriltsi-Ugarchin (TAU)-BG and Nockregion-Oberkärnten-AT) consider policy delivery as a challenge or probably as a constraint to be removed for improving the opportunities of their territories[1].

These considerations also provide interesting elements for clustering Pilot Regions according to their results of first analysis of the transition challenges, to foster the networking among the LLs. However, these perceptions in many cases are also consistent with the structural features of the different PRs.

[1] This issue should be more developed in the next steps of WP4.

Pilot Region reports look at transition challenges and the possible ways to cope with them in two different approaches:

1. Holistic and general
2. Focused on a few interlinked challenges.

Table 5 illustrates the type of approach and main policies each PR associates with the transition challenges, according to the description drawn from the PR reports. This table has been based on fundamental concepts extracted from the PR reports.

In the holistic and general group, we might include global strategies having multi-sectoral and multi-thematic scope within a regionally integrated approach. This is the case for a large group of PRs. This approach seems reasonable, given many linkages among diverse challenges, notably in this first phase of observing positions/needs concerning the three transition themes and relevant strategies for the future. Nevertheless, this approach might be unfeasible to experiment with due to the relatively short research project period, notably in the macro-regions.

Policies indicated in these cases reflect the holistic approach: national strategies, regional development programmes supported by cooperative networks and combining EU with regional funds (see table 5).

The more focused approach considers a few interlinked and more thematic-centred challenges. This direction seems to emerge from a series of PRs, for example:

1. *Combining some critical issues and transition challenges under some common thread*. We have already mentioned Galicia (ES) and Garfagnana (IT), focusing on the sustainable transition of the forest sector through different resource management and more adequate institutional/governance solutions to ensure stakeholders' participation. A similar case can be mentioned for the transition towards better water management through water-saving solutions, digital technology diffusion and collaborative governance. Or likewise, food waste can be the common thread stimulating sustainable transition processes in agriculture, social inclusion and the creation of new entrepreneurship (Osrednjeslovenska (SI));
2. *Combining diverse instruments under a common transition challenge*. This might be the case of transition towards more social inclusion and reducing deprivation conditions in the labour market. The mix of instruments can be different according to the PR: in Mazowieckie (Zydlowiecki distr. PL), stakeholders focused on the creation of entrepreneurship, specialised education and the empowerment of professional skills; in Parma (IT), the emphasis has been on reconnecting demand and supply of labour through welfare policies managed at industrial level and more targeted public policies;
3. *Introducing innovative methods in the design and management of local projects*. In this regard, there are interesting approaches in Garfagnana (IT) and Monmouthshire (UK), which stimulate the creation of partnerships with local authorities and organisations in crucial projects. Or in Nockregion-Oberkärnten (AT), where a Competence Centre of Regional Development is proposed as concrete institutional innovation to ensure

accompanying actions to local projects. The active involvement of living labs in supporting/active observation of these experiences while they are implemented could be extremely interesting for the research projects and local actors.

Policies suggested in these cases have a more definite place-based nature: Local Action plans, local development plans, specific measures territorially or thematically targeted, cooperation among municipal and district-level authorities, specific local NGOs, schools and other cultural bodies, etc. (see table 5).

Table 5 Schematic synthesis of transition challenges, approaches and main policies

Pilot region	More focused challenges	Approach	Policy instruments to be focused
Zajecar District (SRB)	Transition from low income, stagnant and even declining activities to viable companies	Strategy supporting economic activities in agriculture, food industry and tourism	Municipal and joint strategic documents by group of municipalities
Troyan-Apriltsi-Ugarchin (TAU) (BG)	Streamlining the State implementation of EU rules and programmes	Supporting local development initiatives in a broader sense	National Strategies for Regional Development (12-22), Territorial Development (12-30), Programme for Development 2030, and Demographic development (12-30)
Nockregion-Oberkärnten(AT)	Lack of (skilled) workers and employees; Unequal allocation of public resources in favour of urban agglomerates	Promote the involvement of all sectors and lead to integrated regional development processes. Creation of a Competence Centre of Regional Development	Mix of Regional and Rural development policies (i.e. LEADER).
North Karelia (FI)	Ageing; Population shrinking; High unemployment rate; Immigration; Multilocal working; Accessibility	Multi-scope actions addresed to: attract work-based immigration; re-educate unemployed people; support basic education of pupils; public transportation; leisure residents; entrepreneuship; access to health care; third sector organisations.	Regional programmes, supported by cooperative networks and combining EU with regional funds
Garfagnana (Montagnappennino)-IT	Social inclusion of local actors; Ecosystem services and employment opportunities from forest management and valorisation	Multi-scope actions through community projects elaborated by local partnerships	LAG local Action Plan 2023-27
Parma-Piacenza-Ferrara (IT)	Mismatch between labour demand and supply; immigration inclusion; Water resources management; Digital innovation management		Mix of regional and rural development programmes at the local level
Monmouthshire (UK)	Ageing, mobility and transport. Environmental and digital implications	Global strategy as an approach to the three transitions. Partnerships with other local authorities and organisations in key projects in the wider region	Replacement Local Development Plan
Gloucestershire (UK)	Access to quality, affordable housing and healthcare. Intertwined with improved digital infrastructure and the necessary skills to engage in the digital world		
Swietkrzyskie (PL)	Stop and reverse unfavorable demographic processes; Reduce floods, droughts and air pollution; Improve the access to telecommunication networks	Global strategy focusing on creating economic opportunities and improving infrastructures and services	Policies of regional development
Mazowieckie (Zydlowiecki distr. PL)	Outmigration of younger and well-educated residents	Provide favorable conditions for economic development, in particular entrepreneurship, specialized education, and the improvement of professional skills.	Cooperation among municipal and district-level authorities, specific local NGOs, schools and other cultural bodies
Galicia (ES)	Access to housing opportunities; Sustainable forest management; Public trasports availability; Access to information technologies (age and educational level)		
Osona (ES)	Sub-regional inequalities; infrastructures' improvement; Water management; Sustainable forest management	Rethink territorial and urban planning according to the challenges and opportunities defined for each of the transitions	Supra-municipal urban planning
Rhein-Hunsrück (DE)	Shortage of skilled workers in almost all sectors of the economy	Muti-sectoral actions aimed to create an attractive environment that appeals to the younger generation	LAG's and regional authority's programmes
Osrednjeslovenska (SI)	Food waste and its relation to aspects of social inclusion and social entrepreneurship	Acquiring and collating the relevant information with regard to this is seen as being among the central tasks	

Source: Author's own comparative elaboration

2.3 Statistical information, data gaps and needs

The report template and guidelines allowed us to reach some degree of homogeneous data collection and presentation. Still, several gaps have been identified in the available European and national/regional information. Furthermore, focus groups highlighted a series of problems at the local level.

There are still *profound differences in the definition of rurality* and the related diagnosis of territorial differences between countries. This is still visible in the different reports and is reflected in different ways of characterising rural areas, relying on national definitions and methodologies. This makes comparing rural areas in various national/regional contexts challenging.

Further problems arise when a greater granularity is sought: many differences between countries regarding available information at the LAU2 level, misalignment in years available, lack of information for classes of age and gender, etc. Some refinements are necessary for the provision of information at the municipal level.

On the demographic side, the flows of the population to and from rural areas in the migration process (domestic and foreign) deserve a lot of attention. Data on rural populations need to be explored in detail as regards the internal composition of people who immigrated and emigrated at the municipal level.

Some relevant transition challenges made more urgent and clear the need to explore better:

- Labour market characteristics
- Forest production: structural features of production units, linkages with energy and wood chains, public goods and services
- Water management: trend in water resources supply and demand, governance institutions and rules, water saving technologies and solutions

In different reports, significant data are evidenced in the provision of services of general interest. This would require some standard solution based on previous research projects conducted under the ESPON framework.

Problems of harmonisation with international definitions and databases have been identified within the national/regional sources of information, notably by PRs outside the EU. But this issue is also significant for the environment and climate change within the EU countries.

Looking at the possible actions of individual LL, there is a need for making a good inventory of significant sources of information and joining different scattered/dispersed pieces of information from separate silos. This is planned in the subsequent phases of WP2. In this regard, it seems more rational to focus on a common information grid to ensure fundamental indicators of demographic, economic, service provision and environmental changes.

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