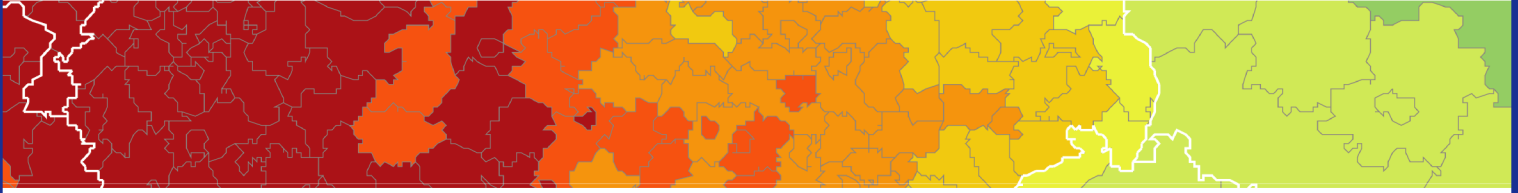


Inspire policy making by territorial evidence



ESCAPE European **S**hrinking Rural Areas:

Challenges, **A**ctions and **P**erspectives for Territorial Governance

Applied Research

**Final Report – Annex 7
Case Study Łomża subregion, Poland**

Annex 7

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Final Report - Annex 7 - Case Study Report

**Łomża subregion,
Poland**

ESCAPE
European **S**hrinking Rural Areas:
Challenges, **A**ctions and **P**erspectives for
Territorial Governance

Version 21/12/2020

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Abbreviations

ARMA	Agency for Restructuring and Modernisation of Agriculture
CAP	Common Agricultural Policy
CF	Cohesion Fund
CLLD	Community-Led Local Development
CS	Case Study
EC	European Commission
EEA	European Economic Area
ENRD	European Network of Rural Development
ERDF	European Regional Development Fund
ESF	European Social Fund
ESPON	European Territorial Observatory Network
EU	European Union
GDP	Gross Domestic Product
GUS	Central Statistical Office
LAG	Local Activity Group
LAU	Local Administrative Unit
LAU 1	Local Administrative Unit (county/districts)
LAU 2	Local Administrative Unit (commune)
LEADER	Local development method implemented by LAG's and CLLD
MiR	The Ministry of Investment and Development
MPiPS	The Ministry of Labor and of Social Policy
MRiRW	The Ministry of Agriculture and Rural Development
MS	The Ministry of the Environment
NRN	National Rural Network
NUTS	Nomenclature of Territorial Units for Statistics
NUTS 1	Nomenclature of Territorial Units for Statistics (region)
NUTS 2	Nomenclature of Territorial Units for Statistics (Voivodeship)
NUTS 3	Nomenclature of Territorial Units for Statistics (subregion)
OECD	Organization for Economic Cooperation and Development
ODR	Agricultural Advisory Center
PGR	State Farms
PRL	Polish People's Republic
RDP	Rural Development Programme
RLKS	Polish acronym of Community-led Local Development
RPOWP	Regional Operational Programme Podlaskie Voivodeship
TFR	Total Fertility Rate
UN	United Nations

Factsheet of Siemiatycki, Łomżyński, Poland

Map 0. Geographical location of Siemiatycki in Łomżyński NUTS 3 unit and in Poland



CS area is shown in red, and the NUTS3 region in grey.

Name Siemiatycki district, located in Łomżyński (NUTS3 unit)

Key Indicators:

Figures refer to 2017 or 2001-2017 unless otherwise specified

Total Population (persons):	45,538
Population Density (persons/km ²):	31.0
Population Change (%):	10.2
Net Migration (per 1,000):	-26.7
Natural Change (per 1,000):	-75.0
% aged >65:	19.9
% Employed in Agriculture:	
GDP per Capita:	12,600* (2016)

* NUTS 3 data

Typologies:

- Urban–rural typology: Predominantly rural region, close to a city ¹
- Border region: Programme area (internal & external) ²
- Typology of simple shrinkage (ESCAPE project): Population decrease 1993-2033, mostly/more pronounced in period 1993-2013; slow shrinking rate (>-0,5)

¹ According to the Eurostat's urban-rural typology including remoteness, a NUTS3 region is predominantly rural if the share of population in rural areas is higher than 50%. It is considered close to a city if more than half of the residents can reach a city of 50,000 inhab. driving 45 min.

² According to the Eurostat's classification of border regions, internal border refers to regions located on borders between EU Member States and/or European Free Trade Area (EFTA) countries; external borders refers to regions that participate in programmes involving countries outside both the EU and EFTA (based on the 2007-2013 cross-border cooperation programmes).

Executive Summary

The report concerns the Łomża subregion (NUTS3) with particular emphasis on its 3 poviats/districts (LAU1), Siemiatycze, Hajnówka and Bielsk, which constitute the core of the analyzed case in terms of the occurrence of the phenomenon of rural shrinkage. A characteristic feature of the subregion (NUTS3), similarly to the whole Podlaskie Voivodeship (NUTS2), is the presence of natural areas valuable on a European scale. Both the Łomża subregion and the Siemiatycze powiat/district, which remains within it, have a rural character and are characterized by an intensive presence of significant natural values. This is a characteristic feature of the whole Podlaskie Voivodeship.

After World War II, due to the shift of Poland's borders to the west, the Łomża subregion, as well as the Podlaskie Voivodeship became peripheral areas, bordering on the Soviet Union, and nowadays Belarus and Lithuania. In the post-war past, just like nowadays, it was a factor hindering the economic development of these regions and consolidating their peripheral character.

It can be said that the population of the area under investigation has been shrinking since the beginning of the 1950s. However, at that time the process took place under different conditions. The answer to the overpopulation of the countryside was the pushy socialist industrialization, which absorbed the excess of hands to work in the area. Migrations did not cause the area to shrink in a complex sense. The breakthrough came in 1989, when the political transformation led to the collapse of the local wood and chemical industries, unemployment rose sharply and small farms that could not meet the requirements of the free market collapsed. Nevertheless, during this period there was a reversal of the demographic trend, which was accompanied by a demographic transition process.

As a result of these processes, the population of the Łomża subregion has decreased by almost 10% since 1990 and of the Siemiatycze district by over 15%. The ageing index increased between 1990 and 2017 from 45.3% to 121.6%. The TFR fertility rate is currently in Siemiatycze district 1.21. Total area (NUTS3) - 8818 km². Population in thousands – 388.337. Population per 1 km² 47 in 2005 and 45 in 2016. In urban areas lives 47.2% of population. Population below 25 years 34.1% (2005) and 26.5% (2016) (-2.4% in relation to 2015). Population 65 years and more - 16% in 2005 and 17.5% in 2016 (2.5% in relation to 2015).

Undoubtedly, one of the main reasons for the shrinkage of rural areas in the Łomża subregion is its peripheral nature. The second factor that undoubtedly influenced the quality of life in this area and its economic characteristics was the economic transformation initiated at the turn of the 1980s and 1990s. The introduction of the free market economy radically transformed the economic structure of the subregion, causing the collapse of local industry, as well as the selection of farms, which meant the disappearance of the smallest ones and the development of the largest, albeit small ones. As a result, the rural population lost their jobs in agriculture was forced to leave the village due to lack of work. The place of departure were large cities,

and in time, mainly jobs abroad (USA, Germany, Great Britain), and after Poland's entry into the Schengen area also Belgium and Ireland. In a situation where there was a shortage of jobs in Poland, the main direction of departure became abroad.

The main resource of the studied area is forest areas which are to a large extent under natural protection, which does not allow for their full use in the development of this subregion. A similar limitation is the poor quality of cultivated land and lack of industry. Negative demographic phenomena in the studied area are also accompanied by economic and infrastructural underdevelopment. The value of the GDP of the Podlaskie region (NUTS2), where the given case is located, in relation to the GDP of Poland is only 72.4%, which places it among the least developed, and the gap between it and the rest of the country is growing.

We should state, that problem of the shrinking of rural areas on studied area, is treated as the element of the broader problem of the depopulation of the Polish society. Therefore interviewed persons aren't imparting special significance for him. Although is enough well diagnosed and described in the quantitative meaning, it is counteracting for him through the implementation of developmental programmes, not necessarily directly connected with the problem of the rural shrinking. Counteracting the processes of rural shrinkage did not take an organised form at the local level. The research conducted in the CS shows that such awareness of the need to take actions aimed at mitigating or adapting to the existing conditions is among local leaders. The dominant strategy of local institutions is to improve technical and social infrastructure so that the inhabitants will not leave rural areas.

However, the basic limitations hampering the development of the examined case result from insufficient cooperation between self-government authorities of various levels (voivodship (NUTS2, powiat LAU1 and commune LAU2). Although the sphere of description and diagnosis of the main demographic problems is at a good level, the issue of the prepared programmes responding to these problems is not well presented, their implementation does not function.

This problem results mainly from the limited competence and financial resources of local governments (powiats and communes), low social awareness, low human and social capital in the area of the examined case, low level of social trust, lack of expert support for development activities at the level of local institutions (communes and non-government organisations), as well as on an individual level. It seems that in the examined area multi-directional development programmes are needed, adjusted to the needs of local communities and taking into account their specificity. They should use local resources (nature, multiculturalism, multi-religiousness), support entrepreneurship and innovation, together with the development of broadly understood infrastructure.

We ascertain that activities related to nature and agriculture are particularly desirable for rural areas. Here possible solutions consist in returning to agriculture as a development factor, but in a new way. Programmes aimed at agriculture should aim to halt further rural deagrarianisation and maintain biodiversity in the area. Policies aimed at agriculture should aim to restore the multifunctional and sustainable agriculture that has existed in the area for

centuries.

In terms of improving the quality of management, local governments should be strengthened and their cooperation increased, and freedom of action in solving their problems should be allowed and financial support should be provided. It is also stressed that the model of development and application of financial resources based on LAGs is the best institutional model for financing local development to date.

1 Diagnosing rural shrinkage and its contexts

1.1 The CS area: introduction

Łomża subregion is located in Podlasie Voivodeship (province), in Eastern Poland. A city of Łomża is a capital of subregion (NUTS3). The entire voivodeship belongs to the so-called “Eastern Wall” (the eastern part of Poland), which has always been particularly strongly affected by the process of depopulation. Łomża subregion consists of 7 poviats (districts): Biała Podlaska, Hajnówka, Kolno, Łomża, Siemiatycze, Wysokie Mazowieckie and Zambrów poviats. Total area: 8,818 km². Population: 388,337. Decrease in relation to 2015 in percentage: -0.5%. Population per 1 km² 47 in 2005 and 45 in 2016. 47.2% of the population live in urban areas. Population under 25 years of age: 34.1% in 2005 and 26.5% in 2016 (-2.4% in relation to 2015). Population 65+ years of age: 16% in 2005 and 17.5 % in 2016 (2.5% in relation to 2015). The reason for choosing this subregion as the case study is the current processes of shrinking that occur there, understood both in the narrow and the broad way (*GUS, Central Statistical Office*).

It is mostly an agricultural area. ***It is characterized by a consistent decrease in the general population and in the population of an economically productive age.*** Systematic population increase over the retirement age (by 25.3% in the years 2004-2013) is known as the “ageing” society. In the subregion the qualifications and competence of workers are incompatible with the available job resources. Moreover, it is characterized by a low level of social security (lack of nurseries, poor and uneven accessibility of health care centers, no institutions providing geriatric and palliative care services). It has an underdeveloped network of organizations from the world of business. It is characterized by a negative birth rate and a negative balance of migration. Data shows that the subregion, as well as the entire Podlaskie Voivodeship, has the lowest investment potential in Poland. A special place in Łomża subregion is Siemiatycze powiat, located in the southern part of the subregion (and the whole Podlaskie Voivodeship) and bordering Belarus. It is mostly agricultural, with only two towns: Siemiatycze and Drohiczyn. It has some special natural values and a high proportion of immigration of foreigners.

1.2 The CS area in the contexts of territorial classifications

Łomża subregion (NUTS3) is predominantly rural. A city of Łomża is a capital of the subregion (in Poland name of powiat/district and subregions derived from the capital of powiat/district and subregion). Łomża subregion is located near to the biggest city of Podlaskie Voivodeship (NUTS2) it means Białystok, which is the capital of region. Population decrease 1993-2033, mostly/more pronounced in period 1993-2013; slow shrinking rate (>-0,5%). Łomża subregion is the biggest one of the three subregions within Podlaskie Voivodeship; it covers 43.7% of the region’s territory. It is located in the south-western part of the voivodeship. In terms of the population (34% of the people in the region), it ranks second in the voivodeship. The territory of the subregion is mostly periglacial plains, cut through by

some hollows and river valleys. The western part is pure plains. A characteristic feature of the subregion, like of the entire Podlaskie Voivodeship, is the presence of areas with natural values recognized on the European scale. These are: The Białowieża Forest, parts of the Narew and Bug River valleys, and part of the Narew National Park. Most of these areas are covered by the Natura 2000 program. The total surface area of Łomża subregion (NUTS3) is 8,818 km², including 2,666 km² of forests (30.23%). The protected area of the subregion with special natural values is 21.4% of the whole area. For comparison, in the entire Podlaskie Voivodeship (NUTS2) this proportion is 31.6% (GUS, Central Statistical Office).

Although Łomża subregion and Podlaskie Voivodeship are mostly rural, the conditions there are not appropriate for conducting agricultural activity. The harsh climate and poor soils make the voivodeship rank last in Poland as regards the valorization index of agricultural production space. The main directions of development of agriculture are dairy and meat cow breeding, and the average size of a farm is 10.5 ha. In Podlaskie Voivodeship, the ratio of people employed in agriculture is 32%. For comparison, in the poviats of Łomża subregion, the proportions are as follows (the rank in terms of employment in agriculture out of all 18 poviats in the voivodeship): bielski 46% (9), hajnowski 34% (14), kolneński 71% (2), łomżyński 72% (1), siemiatycki 59% (8), Wysokie Mazowieckie 63% (6), Zambrów 43% (13) (*Diagnosis of needs.....*, 2017).

Siemiatycze powiat (LAU1) is a part of Łomża subregion (NUTS3). Due to regression processes occurring there, this powiat is the object of interest for us. Like the whole subregion and region, it has special natural values. Natural environment of Siemiatycze powiat is characterized by the variety of flora and fauna and low air and soil pollution. Part of the powiat lies within the Bug River valley (the right bank): a large component of the National and European System of Protected Areas. The powiat is also located in the southern part of the functional area Green Lungs of Poland. Part of the powiat is covered by the Natura 2000 program, including three protected complexes: Valley of the Lower Bug River [Dolina Dolnego Bugu] – a Special Protection Area (the Birds Directive); Bug Refugium [Ostoja Nadbużańska] – a Special Area of Conservation (the Habitat Directive); Bunkers of the Brest Fortified Region [Schrony Brzeskiego Rejonu Umocnionego] – a Special Area of Conservation (the Habitat Directive); the Valley of the Bug and Nurzec Rivers [Dolina Bugu i Nurca] – a Landscape Protection Area; and Uszeście Mountain [Góra Uszeście] reserve. The richness of the natural environment of Siemiatycze powiat is evident in the large forest complexes that have not been destroyed by human activity. Woodlands cover approx. 33.8% of the powiat's surface area. Legally protected areas take up 21.5% of the total area of the powiat. In addition, there are numerous natural monuments (40) within it. **Apart from natural values, Siemiatycze powiat has rich cultural values resulting from cultural, religious and national diversity. However, these values are not sufficiently promoted outside.**

Siemiatycze powiat is predominantly an agricultural area. Farmlands cover more than half of its surface area. The dominant crops are cereals; the production of potatoes, fodder plants, industrial crops, and vegetables is less extensive. The farms mostly breed dairy cows.

Both Łomża subregion and Siemiatycze powiat within it have the rural character and multiple significant natural values. It is reflected in the number of economic entities: the powiats (LAU1) of Łomża subregion have low positions in comparison to other powiats of Podlaskie Voivodeship: bialski powiat 3,827 (8 position), hajnowski 2,959 (12), kolneński 2,432 (14), łomżyński 3,011 (11), siemiatyccki 2,777 (13), wysokomazowiecki 4,100 (6), zambrowski 3,292 (9) (*Diagnoza potrzeb...*,2017). In converting into 1000 residents these powiats have following number of economic entities: bialski powiat 69.05; hajnowski 66.77; kolneński 62.25, łomżyński 58.68; siemiatyccki 60.61, wysokomazowiecki 74.40; zambrowski 70.70 (*Diagnosis of needs...*, 2017).

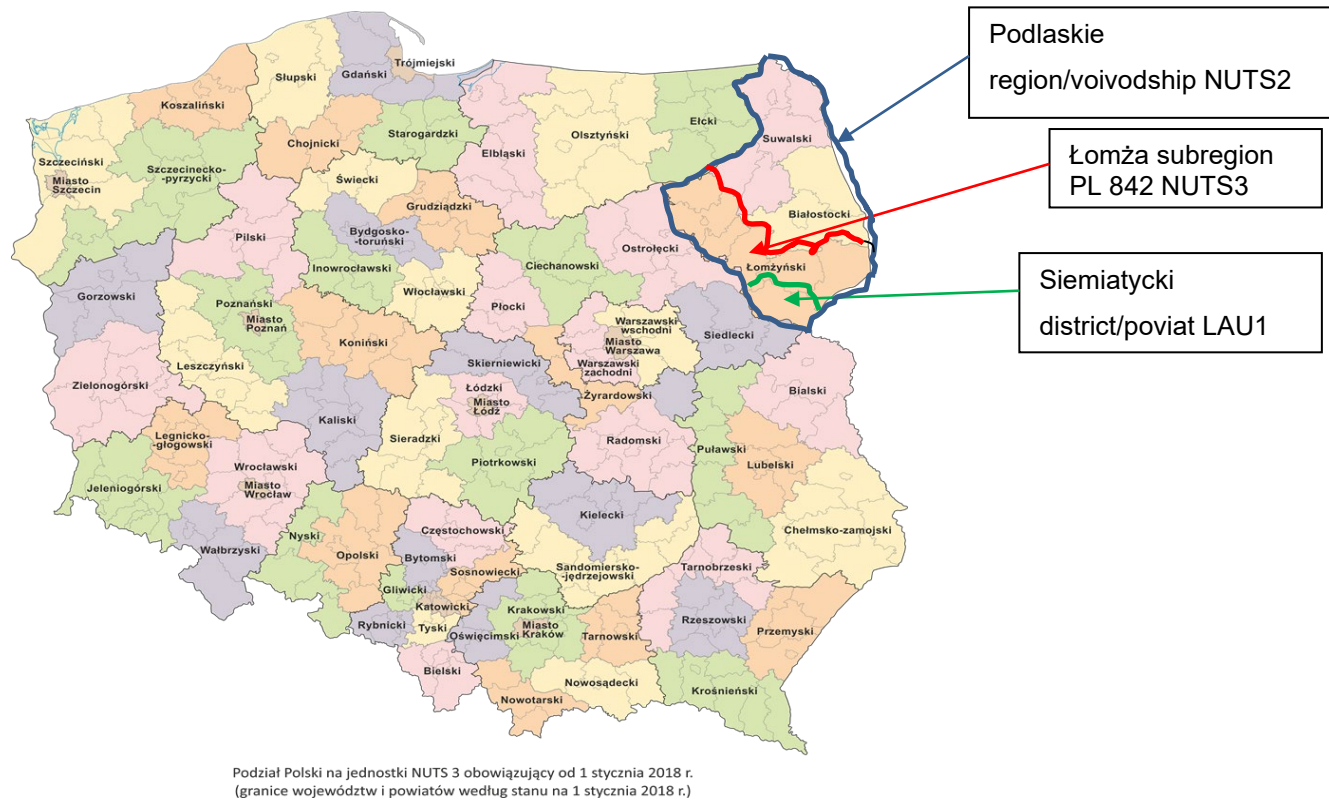
Table 1.1: The CS area in the contexts of territorial classifications

Classifications	Positioning of the case study area
Name	Siemiatyccki
Scale and role in national administration (Y/N and level)	district/county
NUTS 3 unit covered by the CS area	PL344 – Łomżyński (NUTS 2013)
Regional typologies	
Urban–rural typology	Predominantly rural regions, close to a city
Coastal regions	Other region
Mountain regions	Other region
Island regions	Other region
Sparsely populated regions	Other region
Border regions	Programme area (internal & external)
Inner peripheries (ESPON PROFECY)	Other region
Shrinkage typology (ESPON ESCAPE)	
Typology of simple shrinkage	Population decrease 1993-2033, mostly/more pronounced in period 1993-2013; slow shrinking rate (>-0,5)
Typology on structural demographic shrinkage	Globalization/Legacy

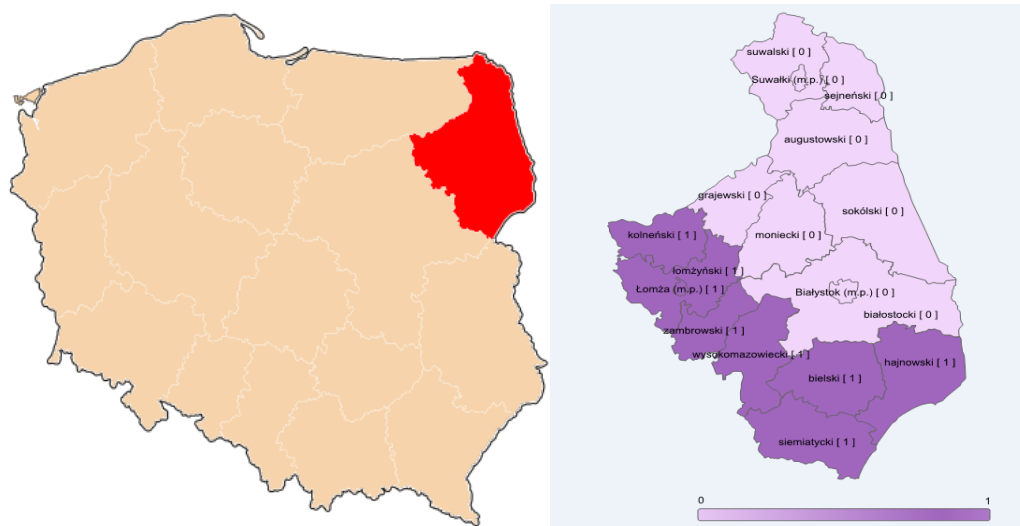
Source: Eurostat; ESPON

In rural areas classification, the communes of Siemiatycze powiat are classified as communes with the predominance of traditional agriculture. The other communes of Łomża subregion have the same classification, and intermediate communes with the prevalence of agricultural function are scarce. **In most communes the following negative demographic tendencies overlap: population decrease (<5%), negative generation replacement rate (TFR) (<1), negative migration balance (twice as high as the natural increase), over 20% people of post-productive age, and an over 20% decrease in population (1950-2013).**

Map 1.1: Geographical location of the case study area in regional and national territory



Map 1.2: Location of the case study area within administrative structures (internal administrative divisions). Podlaskie Voivodeship NUTS2 and Łomża subregion NUTS3



1.3 The case study area against the region, the country and the Macro-Region

Łomża subregion is located in Podlaskie Voivodeship, which is one of sixteen voivodeships in Poland. The capital city of the voivodeship is Białystok. The total population of the voivodeship in 2018 was 1,181,533. The total surface area of the voivodeship is 20,187 km².

It is located in the north-eastern part of Poland. To the north, it borders Lithuania (100.3 km) and to the east, Belarus (236.3 km). Podlaskie Voivodeship (NUTS2), Łomża subregion (NUTS3) and Siemiatycze powiat (LAU1) are relatively uniform. What makes them outstanding is the presence of rich natural heritage. The forest cover in the voivodeship is 30.6%, almost identical with the forest cover rate of Poland (30%).

Podlaskie Voivodeship is typically an agricultural region. The proportion of people working in section A. 'Agriculture, forestry and fishery' has not changed for many years and is approximately 32%. Higher proportions only occur in the other voivodeships of the so-called "Eastern Wall": Podkarpackie, Lubelskie and Świętokrzyskie. ***In economic terms, Podlaskie Voivodeship is one of the least developed in Poland. Although the GDP per capita grows each year, the difference between the GDP level in the region and the mean national value is systematically increasing.*** It is so because of the higher speed of economic growth nationwide. In 2014, despite the growth of nominal GDP per capita in the region (PLN 31,250), its value in relation to the national mean was lower than in 2013 and amounted to 72.4%. Both Podlaskie Voivodeship and the other voivodeships of the "Eastern Wall" (especially rural areas) have a lower level of growth than do central and western voivodeships. The gap between them is increasing. This phenomenon has historical grounds, and the successive historical periods did not change much in this regularity. Neither the inter-war period nor the time of real socialism stopped those negative tendencies. The economic changes after 1989 did not do so, either.

The demarcation line between the well developed part of Poland (including rural areas) and areas with a low level of development overlaps exactly with the former boundaries of annexations. Traditional farming and areas with the predominance of agricultural function prevail in the "Eastern Wall" regions. This is one of the main factors inhibiting socio-economic development. It is reflected in the distribution of different types of commune in Poland regarding their developmental trajectory. ***In the Eastern Wall area, especially in Podlaskie Voivodeship, communes that are closed for development and communes with unstable development dominate. There are very few communes with stable development. Actually, in Podlaskie Voivodeship, such communes can only be found in Białystok powiat.*** The situation is different in the western part of the country, where communes with stable development prevail, plus communes with slow development. Such a distribution of different types of commune among other things results from the insufficient level of socio-economic development and historically developed demographic and economic structures.

Negative economic and social phenomena are also reflected in the main demographic tendencies. The phenomenon of population shrinking is present both in the whole country and in Podlaskie Voivodeship, but its dynamics is higher in Łomża subregion and Siemiatycze powiat, where it is more than twice as high as in the whole Podlaskie Voivodeship. Data from the last two decades shows that against the background of the whole country, Podlaskie Voivodeship, and especially Łomża subregion, stand out in a negative way in this respect,

with over five-fold and ten-fold higher (respectively) population decrease in relation to the whole country. Natural flow and migration also reflect a much more negative tendency at the subregion and voivodeship level than at the national level. Within the last two decades, the proportion of working age population has slightly grown both at the subregional level and at the regional and national ones, but this is a receding tendency, resulting from the fact that baby boomers from the 1970s and 1980s are present on the labor market.

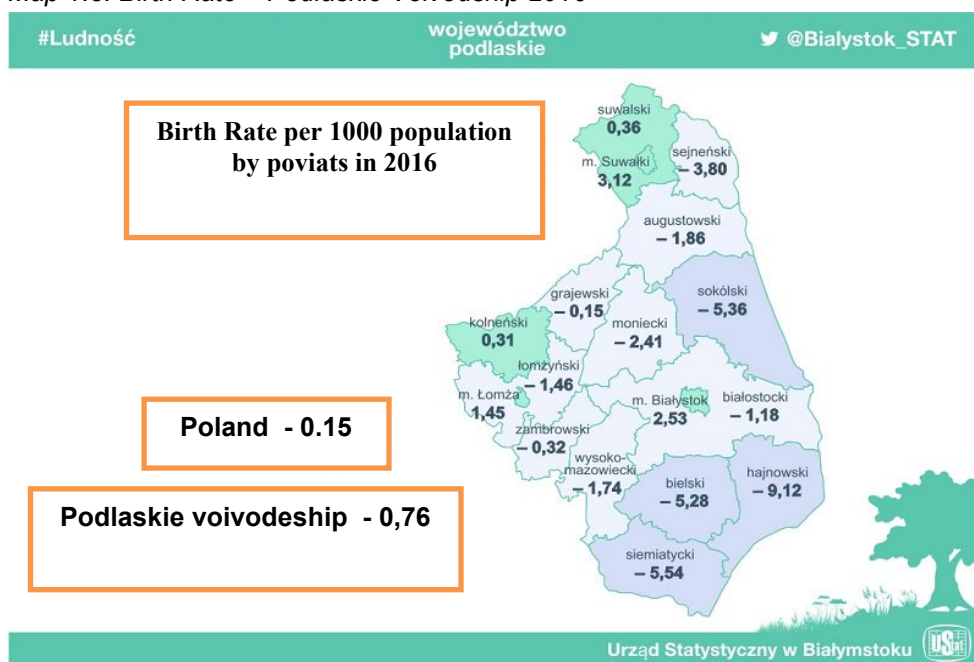
Table 1.2: Basic demographic and socio-economic trends behind rural shrinkage

Indicators	Spatial level	Case study area (if available)	NUTS 3	NUTS 2	NUTS 0, Country	EU28
	Name	Siemiatycki (NUTS 4 2013)	Lomzynski (NUTS 2013)	Podlaskie (NUTS 2013)	Poland	European Union
	Code	2010 062013810000 (GUS – Main Statistical Office)	PL344 from 2018 PL842	PL34	PL	EU28
Total population on 1 January – persons (demo_r_pjanaggr3)	2000	50,865	426,974	1,212,269	38,263,303	487 million
	2017	45,538	388,337	1,156,947	37,972,964	511 million
Population change between 2000 and 2017 ([Population 2017-Population 2000] / Population 2000 * 100) – percentage (demo_r_pjanaggr3)	2000–2017	-10.47	-9.05	-4.56	-0.76	4.95
Population density – persons per km² (demo_r_d3dens)	2000	34 (2002 y.) 33 (2010 y.) 31 (2018 y.)	different area in 2000	59.90 (2002)	122.40	111.90
	2017	31.0	45	59	123.60	117.70
Total fertility rate – number (demo_r_find3)	2000	1,21 (2017 y.)	different area in 2000	1.44	1.37	1.46
	2017	1.21 (2016)	1.36	1.37	1.49	1.59
Net migration rate (Net migration 2000–2017 / Population 2000 * 100) – percentage (demo_r_gind3)	2000–2017	-0.81	-5.65	-2.74	-0.54	4.54
Population projection (EUROPOP2013)	2020	43.744	393,536	1,183,251	38,3906,59	512 million
	2030	39.419	372,005	1,142,54	37,525,67	518

- persons (proj_13rpms3)				4	9	million
	2040	34.858	348,560	1,085,384	36,241,004	524 million
	2050	32.353	323,043	1,019,203	34,842,058	526 million
Working age population (15-64 years old population / Total population *100) – percentage (demo_r_pjanaggr3)	2000	54.60 (2001)	64.9 (2003)	65.33	68.05	67.09 (2001)
	2017	61.77	67.85	68.68	68.36	64.98
GDP per capita – purchasing power standard (nama_10r_3gdp)	2000			14.326 GDP per person		19,800
	2016		12,600	14,100/34300 GDP per person	19,900	29,300
GDP per capita – PPS in percentage of EU28 average (nama_10r_3gdp)	2000					100
	2016		43	48	68	100
Convergence of GDP per capita to the EU28 average (1 + [GDP per capita 2016 - GDP per capita 2000] / GDP per capita 2000) (nama_10r_3gdp)	2000–2016					1.00

Source: Eurostat, Regional statistics by NUTS classification (see table names above)

Map 1.3: Birth Rate – Podlaskie Voivodship 2016



Source: Statistical Office in Białystok 2017.

1.4 Characteristics and contexts of the shrinking process in the CS area

1.4.1 Characteristics of the CS area along demographic criteria (Simple shrinking)

One of the main problem areas in Poland as regards demographic processes is the process of population shrinking in the country, and another one is the migration of people out of rural areas. Three areas of “demographic deformation” can be identified in Poland: 1. areas of depopulation, where the population decreased by more than 5% in the 1981-1990 period; 2. areas of age structure deformation, where people of working age account for less than 50% of the general population; 3. areas of “defeminization”, where the ratio of women in the 20-29 age group is below 80. (Strzelecki, 1995). Based on such assumptions, it is evident that negative population processes mostly concentrate in the north-eastern, eastern and central parts of Poland. Especially in the north-east, in Podlaskie Voivodeship, all three groups of the above-mentioned factors overlapped: migration out of rural areas was accompanied by defeminization and aging of the residents who stayed there.

The main reasons for leaving villages in Poland are regarded to be: the collapse of small and unprofitable farms, the low level of income from farming, the unsatisfactory level of technical and social infrastructure, burdensome work, problems with accommodation, social barriers, lower access to education and culture, and difficulty finding a partner and establishing a family. Due to problems on the labor market and increasing unemployment, in the 1990s, internal migration from rural to urban areas slowed down. In Podlaskie Voivodeship (NUTS2), where the discussed area (Łomża subregion NUTS3) is located, nearly all rural communes except suburban areas are characterized by the outflow of residents. In addition, Łomża subregion is affected by other negative demographic processes (low demographic potential, depopulation, gender structure deformation, and intensifying negative natural increase), as well as a low level of development.

The general tendency concerning the expected change in the number of Polish residents until 2035 divided into urban and rural areas is that all voivodeships will be affected by a decrease in the number of people of working age. But the mean speed of decrease in this population group until 2035 will be significantly lower in rural (-11.6%) than in urban areas (-21.7%). The greatest decrease will occur in Podlaskie Voivodeship, where the mean population decrease until 2035 will be 20.0%.

Based on selected socio-demographic data concerning the analyzed period and on the comparison of tendencies occurring on the national level and observed in the analyzed case study, we can say that negative tendencies are especially strong in Łomża subregion.

Negative tendencies regarding the decrease in population are noteworthy. Whereas in Poland the decrease in particular periods never exceeded 1%, and between 1990 and 2017, its value amounted to 0.46%, in Łomża subregion (NUTS3) in the first decade of transformations (1990 (95)-2001), it was 3.66%, and from the early 1990s until 2017, it reached 10.36% (GUS, Central Statistical Office).

This was combined with the phenomenon of population aging, which was reflected in the dwindling proportion of people aged 0-14. In Łomża subregion this phenomenon was also more extensive than in the whole country. At the starting point (1995), the proportion of people in this age group was higher in the subregion (24.17%) than nationwide (22.47%), but in 2011, the tendency reversed. In Łomża subregion this category only accounted for 14.89%, while in Poland, 15.10%. Whereas at the latest measurement point in 2017, the proportion of this age category increased slightly on the national scale (15.15%), in Łomża subregion the decrease was continuing, reaching 14.06%. However, the proportion of women of working age was growing. In Poland the age bracket of 15-59 is taken into consideration. This indicator was growing until 2011 both nationwide and in the discussed subregion, and finally, in 2017, its level was similar (64%) in both cases. Actually, at the starting point, it was lower in the analyzed region (59.16%) than in Poland (63.75%). Taking into consideration the reverse tendency concerning the proportion of the youngest generation (0-14 years old) in the population, this confirms that the population of the Łomża subregion (NUTS3) at the beginning of the measurement period was younger than the national mean (GUS, Central Statistical Office).

The growing tendency also occurred for another variable: the ratio of aging of the population. The age dependency ratio was growing both in Poland and in Łomża subregion, but in this case, the growth was higher in Poland than in Łomża subregion. This may prove that at the starting point, the population of the subregion was younger than the population of Poland. In other words, the process of aging of the studied population is slightly slower than that of the population of the whole country. We should expect the process to deepen, i.e., in the analyzed subregion, the population will age, though more slowly than in Poland as a whole.

The tendency concerning mortality is equally negative in the analyzed subregion. In the whole period, mortality grew in Łomża subregion from 10.2‰ in 2002 to 11.95‰ in 2017. Nationwide, the same indicator grew from 9.40‰ in 2002 to 10.48‰ in 2017 (GUS, Central Statistical Office).

The negative demographic processes in the analyzed case are also confirmed by the negative tendency concerning the birth ratio per 1000 residents. This especially refers to Łomża subregion in relation to the entire country. Whereas in Poland this ratio grew in the years being the points of reference, from 9.25‰ in 2002 to 11.95‰ in 2017, in Łomża subregion it dropped from 9.49‰ in 2001 to 9.28‰ in 2017 (GUS, Central Statistical Office). This negative tendency is additionally deepened by migration. In each analyzed year, the balance of migration, both for Poland and for the subregion, was negative.

The balance of migration in the Polish population between the years 1990 and 2017 was -1.4‰ per 1,000 residents. The tendency of outflow of Polish residents was the strongest in the last decade of the 20th century (-15.25‰) and in the first decade of the 21st century (-13.62‰). Regarding the whole period of analysis (1990-2017), we must say that the balance of migration was relatively low (*GUS, Central Statistical Office*).

The tendency was much worse in Łomża subregion. While at the starting point (in this case, 1995), the scale of balance of migration was similar to that in the whole country, it maintained on a relatively high level all the time. Comparing the beginning (1995) and end (2017) of the analyzed period, its value was -12.14‰. All the tendencies concerning natural and migration flow were reflected in population density. At the national level, it was similar throughout the analyzed period, and in Łomża subregion there was a clear downward tendency from nearly 50 persons/km² in 1995 to 45 in 2017 (*GUS, Yearbooks of Central Statistical Office*).

As already mentioned, Siemiatycze powiat (LAU1) as part of Łomża subregion (NUTS3) is especially interesting for us due to the presence of particularly negative demographic tendencies. Against the background of data quoted above, its characteristics are very negative. Between 2000 and 2017 the population of the county decreased from 50,865 people to 45,538 people, a decrease of 10.47%. In the same period the population density decreased from 34 people to 31 people per km². The mortality rate per 1000 inhabitants was as follows in Siemiatycze County (LAU1): in 1995 13.8‰, in 2000 11.3‰, in 2017 12.7‰ and in 2018 14.0‰. The birth rate per 1,000 inhabitants was as follows in the analysed period: 1995 11.76‰, 2000 10.10‰, 2010 8.32‰ and 2017 7.90‰ (*GUS, Yearbooks of Central Statistical Office*).

The natural growth rate in the Siemiatycze County was -1.3‰ in 1995, -1.23‰ in 2000, -3.9‰ in 2009, -4.82‰ in 2017 and -6.9‰ in 2018. These trends were also reflected in the structure of economic groups in the Siemiatycze district. According to the available data, in 2001, the share of the youngest group at pre-working age (0-14) in the total population was 22.50%, while the share of the oldest group at post-working age (64+) was 18.61%. In 2010, the respective shares of these economic groups in the entire population were 17.83% (0-14) and 19.90% (64+). One should add that a retirement age changed. In years 2013-2017 amounted to 67 for women and men. For a year 2018 amounts to 60 years for women and 65 for men. (*GUS, Yearbooks of Central Statistical Office*).

In the years 1995-2017, its population decreased by 14.5%, and forecasts for the next years point to its further reduction by more than 11% until 2035, then 5.5% from 2035 to 2040, and by 13% from 2040 to 2050. All in all, in the years 2019-2050, the expected population decrease in Siemiatycze powiat will be 27.5%. This negative tendency is the product of the combination of negative natural increase and migrations. In 1995, natural increase in the powiat was negative (-74), and that tendency was even stronger in the subsequent measurement periods: 2001 (-138 persons), 2011 (-239 persons) and 2017 (-210 persons). Additionally, the external and internal migration balance was also consistently negative: 1995

(-226 persons), 2001 (-226 persons), 2011 (-193 persons) and 2017 (-202 persons). As a result, there was a migration balance in the following years per 1000 inhabitants -4.27‰ (1995), -4.22‰ (2000) and -4.82‰ (2017) and -5.5‰ (GUS, Yearbooks of Central Statistical Office).

Thus, we may say the Siemiatycze powiat is affected by negative demographic processes to a greater extent than the whole Łomża subregion, Białystok region, and Poland.

Table 1.3: Basic demographic and socio-economic trends in the CS area and at national level

Indicator name	Definition/calculation	Scale	1990	2001	2011	2017
Total population (number)	Total population on 1 January	CS area	440181(95)	424033	412678	398830
		Country	38609399	38242197	38538447	38433558
Ratio of 0-14 y.o. population (%)	Number of 0-14 years old population / Total population * 100	CS area	24.17 (95)	20.18	14.89	14.057
		Country	22.47	18.41	15.10	15.15
Ratio of female population in productive age (15-45 y.o.) (%)	Number of 15-45 years old female population / Total female population * 100	CS area	59.16	62.00	66.17	64.62
		Country	63.75(95)	66.63	67.63	64.04
Population density (persons/km2)	Total population / Area	CS area	49.9(95)	48.2	47 (10)	45
		Country	123.4	122(02)	123	122.9
Gender balance	Total female population / Total male population	CS area	103 (88)	102(02)	102	102
		Country	105	107	107	107
Old age dependency rate (%)	Number of 65+ years old population / Number of 15-64 years old population * 100	CS area	27.5(91)	31.9	30.8	34.8
		Country	22.3(91)	24.2(02)	26.9	34.0
Ageing index (%)	Number of 65+ years old population / Number of 0-14 years old population * 100	CS area	45.3(91)	60.7 (03)	106.5(12)	121.6
		Country	43.3(91)	61.0	90.2	115.5
Crude birth rate (births/1000 persons)	Number of live births / Total population * 1000	CS area	17.4(91)	9.49	9.17	9.28
		Country	14.3(91)	9.25(02)	10.08	10.46
Crude death rate (deaths/1000 persons)	Number of deaths / Total population * 1000	CS area	10.5(91)	10.20	10.95	11.95
		Country	10.2	9.40(02)	9.75	10.48
			1990-2011	2001-2011	2011-2017	1990-2017
Population change (%)	(Total populationT2 - Total populationT1) / Total populationT1 * 100	CS area	-3.66	- 2.75	-3.47	-10.36
		Country	-0.95	- 0.77	-0.27	-0.46
Number of arrivals due to migration per 1000 persons-country	Number of arrivals due to migration within the indicated period	CS area	7772	4527	2552	10655
		Country	2.6	6.6	15.5	13.3

Number of departures due to migration per 1000 persons-country	Number of departures due to migration within the indicated period	CS area	11609	6386	4507	14978
		Country	18.4	23.3	19.9	11.9
Net migration rate (%) per 1000 persons	(Number of arrivals due to migrationT1-T2 - Number of departures due to migrationT1-T2) / Total populationT1 * 100	CS area	- 6.82	- 3.22	- 3.69	- 7.75
		Country	- 15.8	-16.7	- 4.4	- 1.4

Source: *Statistical Yearbooks. Central Statistical Office. Warszawa.*

1.4.2 Characteristics of complex shrinkage of the CS area

Negative demographic trends were also accompanied by the phenomenon of rural shrinkage in a complex sense. Analysing the available data, one can say that one of the main problems that were tried to solve was the activation of entrepreneurship. The data on a national scale, as well as, above all, on the surveyed area, are not unambiguous. On the one hand, the total number of enterprises decreased in the second decade of the 21st century, on the other hand, the number of the smallest enterprises increased. Nevertheless, the negative trend prevails if we take into account the decrease in the number of medium-sized enterprises employing from 10 to 49 people. Their decrease in the surveyed area between 2011 and 2017 was similar to that of the whole country, but the disproportion in terms of their share in the structure of enterprises is crucial here. In the surveyed area their number per 1000 people slightly exceeds 2, while on a national scale it oscillates around 4. Generally, we can state that the level of entrepreneurship in the surveyed area compared to the national level is much lower. This is also shown by the previously mentioned data, which locate poviats (LAU1) belonging to the Łomża subregion, in terms of the number of functioning economic entities in remote locations within the Podlaskie Voivodeship (NUTS2). Both at the national and sub-regional level, small and medium-sized enterprises dominate in the structure of enterprises, however, their number per 1000 inhabitants in the country is 1.9, while in Podlaskie Voivodeship it is 1.5 and is the lowest in Poland (Czerniak Stefański, 2015: 5).

A similarly declining tendency is shown by the share of agricultural activity in the total number of enterprises. This trend is similar on a national scale, as well as within the surveyed area. In both cases it results mainly from the concentration of agricultural production in the hands of owners of the largest agricultural holdings. A slight variability of the share in the total number of enterprises concerns those operating in the area of industry and construction and services. Both at the level of the country and Łomża subregion, they show little dynamics of changes.

The share of population in the productive age is also characterised by relatively low dynamics. On the one hand, however, we observe here an upward trend in the first decade of the 21st century and a decrease in the share of this category of population in the second

decade of the 20th century. This pattern concerns both Poland and the Łomża subregion. However, the decreasing tendency of the number of unemployed on the labour market, both in Poland and in the studied area, is optimistic.

After taking into account the demographic data presented above, it can be concluded that a definitely visible trend is simple shrinking of the studied area, accompanied by stagnation and its limited shrinking in a complex sense (complex shrinking).

Table 1.4: Economic indicators of the CS area and at national level

		2001	2011	2017
Number of enterprises per 1000 persons	CS area	Not available	52.6	62.0
	National level	43.3	43.3	54.0
Number of small-sized enterprises per 1000 persons <i>Up to 9 per.</i>	CS area	Not available	61,7	68,1
	National level	42.9	46.1	53.5
Number of medium-sized enterprises per 1000 persons <i>(medium 10-49 per.)</i>	CS area	Not available	2,7	0.35
	National level	0.35	0.40	0.40
Ratio of SME in the total number of enterprises (%) <i>Up to 49 per.</i>	CS area	99% (2002)	99%	99%
	National level	99% (2002)	99%	99%
Ratio of NACE.rev2 A (agriculture) enterprises in the total number of enterprises (%)	CS area	6,2% (2009)	6,4%	4,1%
	National level	2,3% (2009)	2,4%	1,7%
Ratio of NACE.rev2 B-F (industry, construction) enterprises in the total number of enterprises (%)	CS area	23,8% (2009)	23,9%	25,8%
	National level	21,5%	21,6%	21,4%
Ratio of NACE.rev2 G-U (services) enterprises in the total number of enterprises (%) <i>Other activities</i>	CS area	70,1%	69,6%	70,0%
	National level	76,1% (2009)	76,0%	76,9%
Ratio of working age (15-64 y.o.) population (%)	CS area	69%	71,1%	67,9%
	National level	64,4%	69,1%	68,1%
Ratio of jobseekers/unemployed persons in working age population (%)	CS area	11,3%	7,4%	5,4%
	National level	12,2%	7,6%	4,4%

Source: Statistical Yearbooks. Central Statistical Office. Warszawa.

1.4.3 Broader socio-economic contexts of Shrinkage which may drive population decline

Undoubtedly, one of the main reasons for the shrinkage of rural areas in the Łomża subregion is its peripheral nature. This state of affairs concerns the whole Podlaskie Voivodeship, within the area of which this subregion is located, and even the whole so-called Eastern Wall in Poland, i.e. voivodeships located in the east of the country. First of all, it means underdeveloped industry, lack of large investments, agricultural character of the area, high level of afforestation of Podlasie (NUTS2). Nevertheless, it should be borne in mind that until recently Podlaskie Voivodeship belonged to the poorest regions of the European Union. This situation changed after Romania and Bulgaria joined the EU.

The second factor that undoubtedly influenced the quality of life in this area and its economic characteristics was the economic transformation initiated at the turn of the 1980s and 1990s. It led to the collapse of the industry existing in the subregion and changed the size structure of farms with the liquidation of the smallest ones that were unable to meet the requirements of the free market. Only the EU membership and the inflow of European funds to this subregion significantly improved its economic situation. Nevertheless, disproportions between the level of development of the country and the Podlaskie region (NUTS2) are still visible. Even greater disproportion exists between the Łomża subregion and the national level.

The lack of data concerning access to broadband Internet in the subregion does not allow for comparison with the level of development of this service at the national level, but it is possible by referring to data concerning Podlaskie Voivodeship (NUTS2). In 2003 in this voivodeship the access to Internet had 15% of households, in the following years it was at the level: 2011 - 46.5% and in 2017 - 58.9% (*Central Statistical Office - Local Data Bank*). Therefore we can see that although the rate of growth of Internet access in the region is quite high, it significantly differs from the standard at the national level. There are investments in the Łomża subregion, but it is still unsatisfactory and the interviewees repeatedly stressed that this is a barrier to the development of new remote jobs.

The subregion also has a weaker performance compared to the country in terms of construction development. It definitely stands out in terms of newly built flats per 1000 inhabitants, as well as in terms of their percentage share. However, the most acute backwardness concerns access to services. This issue was raised by the interviewees. The subregion has much smaller access to doctors, hospital beds as well as kindergartens and schools. These areas are considered to be one of the main factors (besides the wage level) that discourage people from staying in rural areas, but also in small towns.

It should be noted, however, that funds spent on development are largely directed towards the development of road infrastructure, which has significantly improved over the last 20 years. However, this concerns mainly national and powiat roads. Local roads still require large

expenditures, which the municipalities are not able to bear. This particularly applies to small and peripheral localities. **The main problem for local authorities is the maintenance of schools and hospitals. This means that while the development of road infrastructure can be viewed quite optimistically, access to services (especially schools and medical services) will be a significant challenge. It is in this area that the process of shrinking rural areas is most visible.**

Table 1.5: Contextual indicators of shrinkage in the CS area and at national level

		2001	2011	2017
Ratio of households with broadband access in the total number of households (%)	CS area <i>Region NUTS2</i>	15.0% (2003)	46.5%	58.9%
	National level	22% (2006)	68,8% (2013)	77,6%
Number of newly-built dwellings per 1000 persons	CS area	0,3	2.7	2.47
	National level	2.77	3.40	4.64
Ratio of newly-built dwellings in the housing stock (%)	CS area	Not available	0.7 (2010)	0.67
	National level	0.78 (2000=100)	0.97 (2010=100)	1.16 (2016=100)
		7.7 (1990=100)	7.8 (2002=100)	7.0 (2011=100)
Number of general practitioners per 1000 persons Per 10000 persons	CS area	Not available	25.1	26.5
	National level	33 (2005)	35	38
Number of hospital beds per 1000 persons Per 10000 persons	CS area	45,26	42.4	44,5
	National level	47,04	46,86	48,20
Number of kindergartens per 1000 persons	CS area	52 0.12	48 0.11	59 0.15
	National level	8 103 0.21	9 233 0.23	11 882 0.31
Number of schools (primary+secondary) per 1000 persons Enrolment rate	CS area	Primary (2003) 98,17 secondary 2003 97,87	Primary 94,43 Secondary 95,04	Primary 91,79 Secondary 95,62
	National level	Primary (2003) 100,05% Secondary (2003) 100,96 0.55	Primary 99,81 Secondary 100 0.55	Primary 95,24 Secondary 100,99 0.42
Ratio of population with low qualification (%) Gross enrolment ratio for CS	CS area	99.5 (03)	91.6	92.35
	National level	32,2	22,9	18,3
Ratio of population with	CS area	5.56	10.8	10.5

high qualification (%)	<i>National level</i>	9,0	18,6	23,7
Number of NGOs per 1000 persons	<i>CS area</i>	Not available	1.93 (Podlaskie region)	2.90
	<i>National level</i>	1.58	1.99	3.48

Source: *Statistical Yearbooks. Central Statistical Office. Warszawa.*

1.5 Governance framework

Functioning of institutions in rural areas in Poland takes three basic legal forms. The first group, public institutions, include government departments: Ministries, Voivodship Offices. This group includes self-government and territorial institutions: Marshal's Office, Poviast Office, Commune Office and self-government - economic: Agricultural Chambers, Economic Chambers (*izba gospodarcza*). The second group, private institutions include: Cooperatives, Producer Groups, and Companies. The third group consists of non-governmental institutions: foundations, associations, unions of associations, trade unions and associations of producers. One of the biggest problems of rural areas in Poland is the low level of entrepreneurship. A relatively small number of people decide to open their own businesses.

Among many institutions deciding on the pace and scope of regional and local development, public administration plays a special role because of its organization, scope of tasks defined by law and instruments held. Public institutions at the national level that contribute most to the development of rural areas and thus suppress depopulation are: the Ministry of Agriculture and Rural Development (MRiRW), the Ministry of Investment and Development (MliR), the Ministry of the Environment (MS), the Ministry of Labor and Of Social Policy (MPiPS), Polish Agency for Enterprise Development (PARP), National Rural Network (NRN), Agricultural Advisory Center (ODR).

In the regional structures of public administration, the dominant institutions-organizations are: voivodship self-governments, regional agencies of ARMA, ODRs and agricultural chambers, as well as non-governmental organizations, including Regional Agency of the National Rural Network. Due to the fact that rural cohesion has its regional and local dimension, attention should be paid to local government - as the main entity creating the conditions of this process. Giving the self-governments subjectivity meant that they are responsible within their competences for the economic and social development of its territory. They are to support and create conditions for development activities undertaken by various public and private entities in the region, which makes them the greatest initiators and coordinators of regional development.

In order to perform tasks shaping the coherence of areas, territorial self-governments can: create self-government organizational units and contracts with other entities; conclude agreements with other local government units from the area of the voivodship (and in the case of voivodships with other voivodships) on entrusting public tasks; provide assistance,

including financial assistance, to local governments at both the same administrative and other levels; create associations, including self-government units of other administrative levels.

The specific tasks of the voivodship self-government in the field of labor market policy include: defining and coordinating regional labor market policy and human resources development in relation to the national labor market policy through the preparation and implementation of a regional action plan for employment; distribution of the Labor Fund resources, human resources development and activation of the unemployed; programming and performing tasks implemented with the co-financing of the European Social Fund. Although infrastructure services are provided by the public, private, non-governmental and mixed sectors (public-private, public-non-governmental), the infrastructure investment policy is the domain of the municipal authorities. The emergence of civil society institutions is more important in those rural areas where public service infrastructure is shrinking and private companies are experiencing stagnation. The weakness of the development of civil society institutions is a fact that it has neither adequate permanent financial resources (except for a few European funds) nor human resources to develop activities and effectively influence the shaping of rural cohesion.

The system of institutions counteracting the shrinking of rural areas in Poland is highly centralized. Most of the institutions counteracting the shrinking rural areas process depend on central and regional institutions implementing projects commissioned by them. Funds allocated to these projects usually come from the EU budget or national budget.

The region in which the case study was conducted is typically agricultural. Therefore, the most important institutions counteracting the shrinking of rural areas are those responsible for implementing the Rural Development Program. The agricultural sector is coordinated by the Ministry of Agriculture and Rural Development, which through its dependent institutions operating locally shapes social policies in this region. Creating local development strategies, regional and local government institutions adapt to the objectives of social policies defined by central government institutions. Non-governmental organizations seem to have the greatest autonomy in action, however, their projects have low cost consumption and usually concern the so-called soft actions, raising the level of human and social capital in local communities. There are also good examples of cooperation between local government institutions and the private sector, especially from the Suwałki Special Economic Zone. The cooperation of local government authorities with entrepreneurs who want to invest in the region is an example of cross-sectoral cooperation.

2 Patterns and causalities of rural shrinkage

2.1 Broad introduction of global and national factors impacting shrinkage in the CS country

After the Second World War, at the end of the 1940s, about 2/3 of the country's population lived in rural areas. The post-war increase in the population of cities meant that already in 1966 the population of villages constituted only half of the country's population, and at the end of the 20th century - about 38% (Rosner 2016, p. 232). These processes are illustrated by data from the Central Statistical Office covering the years 1950-1988. During this period there was an increase in the population of Poland by 53.9% from 24,613 thousands to 37,878 thousands. This increase concerned mainly cities, whose population increased from 9,605 thousands to 23,174 thousands, i.e. by 141%. At the same time, the population of rural areas decreased only by 2.03% from 15,008 thousands to 14,703 thousands. Thus, there was a constant decrease in the share of the rural population in the demographic structure, at the same time as a limited decrease in the number of rural residents, which resulted from the neutralizing role of natural growth in rural areas in relation to the outflow of rural residents to cities. This growth was much higher in rural areas than in towns, hence the losses of rural population were relatively small in the period presented. It is worth adding that the total fertility rate in cities was 3.2, 2.8 and 1.7 in 1950, 1975 and 1990 respectively, and in rural areas at the same time: 3.7, 3.2 and 2.6.

In contemporary research in Poland, attention is drawn to the fact that the development of regions is varied depending on their socio-economic dynamics. On the one hand, we have "winning" regions (development poles) and "losing" regions (hinterland regions). In each of these regions, attention is drawn to the role of demographic processes (inflow - outflow of population, natural movement), social processes (different economic activity, entrepreneurship, innovation, education level) and economic processes (mono-functionality and multifunctionality of economy). It is stressed that EU funds cannot be properly used everywhere because of the limiting role of weak human capital. The phenomenon of migration in rural areas in Poland should now be considered in two ways: firstly, in the general scale there is an increase in the number of inhabitants of rural areas (mainly due to migration to suburban areas, which is connected with suburbanisation), secondly, in peripheral areas, distant from agglomerations, the balance of migration from and to rural areas is negative.

At present, Poland takes into account five criteria for delimiting rural areas which have unfavourable demographic trends: 1. the natural loss below 5% in the commune; 2. the generation exchange rate in the commune (gross reproduction rate), a value lower than 1; 3. the negative balance of migration twice as big as the natural growth, calculated in absolute numbers; 4. the share of the population in the post-productive age above 20% in the commune; 5. the decrease of the commune population above 20% in the years 1950-2013.

Based on these criteria, rural areas in Poland were delimited which are characterised by

unfavourable demographic trends resulting in advanced depopulation processes. As much as in nearly 22% of rural communes in the years 1950-2013 a decrease in the number of population greater than 20% was recorded. These were mainly communes located in Podlaskie Province, southern part of Lubelskie Province. Similarly, nearly one fifth of rural communes were characterised by a high migration outflow, twice as high as the natural growth rate. In rural areas of the Podlaskie, Lubelskie and Świętokrzyskie Voivodships two unfavourable demographic phenomena were also accumulated - the natural growth reaching below 5‰ (8.7% of the rural communes of Poland) and a high (over 20% in the population age structure) share of the population in the post-productive age (14.9% of the rural communes). Additionally, few rural gminas (1.7% of all) were characterised by a low value of the reproduction rate. The accumulation of negative phenomena in 13 rural communes (Biezuń, Baranów, Bejsce, Białowieża, Gidle, Horodło, Krynki, Nur, Perlejewo, Ruda Maleniecka, Rzecznów, Suraż, Szczepieszyn) is worrying. 4 phenomena overlapped (the furnace of these communes are located in the area of Podlaskie voivodship - Białowieża, Trynki, Nur, Parlejewo and Suraż), in the next 158 - 3, and in 207 - 2.

On the basis of the data contained in the tables in the first chapter, it is clearly visible that the Łomża subregion (NUTS3) as well as the Siemiatycze County (LAU1) belong to areas with negative demographic trends. This problem also applies to Poland as a whole, and in a special way to the so-called "Eastern Wall" (voivodeships (NUTS2): Podlaskie, Lubelskie and Podkarpackie), to which the studied subregion belongs.

According to the latest data from the Central Statistical Office for 2019, the number of inhabitants in Poland shrank by 28 thousand compared to 2018 and the number of deaths increased by 35 thousand. These are the worst data since the end of World War II. Another unfavourable phenomenon resulting from this trend is the rapid aging of the Polish population. In 2018, the median age of the Polish population was 41 years and was 5 years higher than in 2000. In a natural way, this phenomenon is being stamped out in the employment structure, where the number of people in post-working age increases and decreases in pre-working age. In 2019, for every hundred people in working age there were 30 people in pre-working age and 37 in post-working age. In terms of natural movement, rural areas and cities in Poland are characterised by similar problems (medians of the age of women and men is growing, similarly to the percentage of the population over 65, whereas a rate of the general fertility and a rate of the reproduction are decreasing), with the difference that fertility and fertility rates are lower in cities than in villages. In 2017, the natural growth rate in rural areas was 0.7‰, while in cities - 0.5‰ (GUS, Yearbooks of Central Statistical Office). This is mainly due to three overlapping factors overlapping and diversifying the demographic structure of cities and villages in Poland. They have similar effects in the countryside and in the city but with different intensity.

The first, long-term one, is related to the demographic transition (demographic transition is a phenomenon and theory which refers to the historical shift from high birth rates and high

infant death rates in societies with minimal technology, education (especially of women) and economic development, to low birth rates and low death rates in societies with advanced technology, education and economic development, as well as the stages between these two scenarios), whose intensity in cities is higher than in rural areas, as well as is also bigger in western than eastern Poland. This factor is responsible, among other things, for such structural changes as an increase in the share of the old population, a decrease in the total fertility rate, and the development of population reproduction rates below the simplest reproduction limit. The second one, overlapping with the phenomenon of the demographic transition, is the demographic wave, i.e. successive demographic ups and downs, together with their later echoes. In the past, in cities and in the countryside, they were conducted according to different dynamics. They were more intense in cities than in the country. The third factor, internal migration between urban and rural areas. In practice, this means migration from cities to suburban areas, while the outflow from rural to urban areas means migration from places distant from urban centres.

The strongest outflows from villages to cities took place in the 1970s. However, since the beginning of the 21st century, the inflow of urban population to rural areas, mainly to suburban areas, has prevailed. The most popular directions of internal migration in Poland in the years 1989-2017, of which 11.9 million were recorded in the whole period, were flows within rural areas (1.2 million), then from voivodship cities to suburban areas (1.1 million) and from rural areas to non-voivodship cities (1.0 million).

Table 2.1: Chosen indicators being characteristic of a demographic process in urban and rural areas in Poland

Year	Median of the age of the population				Percentage of the population aged 65 and more		Rate of the general fertility		Gross reproduction rate	
	Man		Women							
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
1950	25.4	23.7	28.3	26.1	5.0	5.4	3.235	4.300	1.558	1.936
1960	25.6	24.5	28.9	27.6	5.5	6.3	2.430	3.600	1.168	1.731
1970	27.0	25.2	30.7	29.6	7.7	9.1	1.710	2.885	0.832	1.389
1980	28.8	27.7	31.0	30.9	8.9	11.7	1.928	2.908	0.939	1.416
1990	31.5	30.1	34.2	32.6	9.1	12.0	1.721	2.576	0.836	1.253
2000	34.2	32.2	38.8	34.9	11.7	13.4	1.201	1.652	0.581	0.805
2010	37.0	35.2	41.7	37.4	13.9	12.8	1.292	1.505	0.623	0.722

Source: Yearbooks of Central Statistical Office 2014.

The described phenomena cause Poland to be considered by the UN as a country in which negative demographic trends will be particularly intense in the coming years. According to its predictions, by the end of the 21st century the population of Poland may shrink from the current 38 million to 24 million inhabitants. It should be emphasized that these phenomena are the result of modernization processes taking place in the background, which were launched with the beginning of the political transformation in 1989 and coincided in Poland with the so-called second demographic transition. Therefore, the transformation and the

accompanying economic changes (e.g. a decrease in family income, territorial differentiation of the labour market) can be treated as a factor influencing demographic processes.

In relation to Poland, the main factors influencing the processes of rural shrinking are: difficulties on the rural labour market, decreasing fertility rate, population outflow to larger cities and abroad and in many cases peripheral locations of rural areas. All these factors also affect the area of the case study. Moreover, within the Łomża subregion, such factors as: historical conditions, poorly developed communication infrastructure, low population density and civilisation backwardness are important for its contraction.

2.2 Evolution of shrinkage in the CS area

As we said, the Łomżyński Sub-region (NUTS3) is nowadays located in the south-western part of the Podlaskie Voivodeship (NUTS2), which is the northeastern part of the so-called "eastern wall", i.e. the area of the eastern part of Poland, which on the one hand is the least developed area of the country, and on the other hand, is most affected by depopulation and ageing processes. In the period before World War II, these areas constituted the central area of Poland, which allowed them to develop relatively freely and maintain economic relations with their surroundings. After World War II, due to the shift of Poland's borders to the west, the Łomża subregion, as well as the Podlaskie Voivodeship became peripheral areas, bordering on the Soviet Union, and nowadays Belarus and Lithuania. In the post-war past, just like nowadays, it was a factor hindering the economic development of these regions and consolidating their peripheral character. It was also important for the dynamics of demographic processes taking place in the Łomża subregion (NUTS3), as well as in the most affected districts within this subregion, i.e. the Siemiatycze, Hajnówka and Bielsk districts (LAU1).

Historically speaking, the current Łomża subregion, together with the districts that are of interest to us due to the particular intensification of "shrinkage" processes (Bielsk, Siemiatycze, Hajnówka), especially in rural areas, belonged to Białystok voivodship (today's NUTS2) until 1975 and in a small part in the immediate post-war period to Warsaw voivodship. After the administrative reform in 1975, the current Łomża subregion functioned until 1998, until the next administrative reform, within two Voivodeship, Łomża and Białystok (Podlaskie Voivodeship was divided into three smaller Voivodeship in 1975, whose common area overlapped with the former territory of the Podlaskie Voivodeship) This territorial variability makes it difficult to carry out a precise comparative analysis of the data in the long term, but certain trends can be captured on the basis of a broader territorial context, i.e. the Podlaskie Voivodeship (today's NUTS2), which has had and has had until today, more or less since the late 1950s., almost identical area.

It is not possible to obtain data from before 1998 regarding the area of the contemporary

Łomżyński subregion, so it is worth to use data on the whole Podlaskie region, which are helpful in reflecting the trends present in the past in the area of the contemporary Łomżyński subregion. Analysing the available data (table 2.2) on the basis of the censuses of the post-war period concerning Podlaskie Voivodeship until 1988, broken down into sub-periods (until 1975 before the administrative reform and in the years 1975-1988 after the reform, when the area was divided into 3 smaller voivodeships), it can be concluded that it was characterised by relatively high positive dynamics of demographic processes. There was a systematic and significant increase in the population of this voivodeship, which in the years 1950-1988 amounted to 56.6%. At the same time, the number of inhabitants living in urban areas was systematically increasing and the number of people living in rural areas was decreasing. Over the analyzed period the number of urban residents increased by as much as 270%, while the number of rural residents decreased by 5.9%. In turn, the population density increased from 41 to 56 people/ per km². The presented data include not only internal but also external migration, from and to the analysed region. On their basis, additional conclusions about Podlaskie Voivodeship can be formulated. Firstly, that it was of an eminently rural character, with a definite predominance of the rural population, whose outflow to cities, with simultaneous high natural growth in rural areas, did not significantly deplete rural population resources (only 5.9%). Secondly, the low level of urbanisation at the initial point (1950) means that the increase in the number of city dwellers by nearly 580 000 between 1950 and 1988 resulted in an increase by as much as 270%.

As can be seen from the data in the table below, a similar trend was observed throughout the country. With the difference that the urbanisation process in Podlaskie region was more intensive than in the whole country, similarly, in Podlaskie region the outflow of population from rural areas was much higher than in the whole Poland. On this basis it can be concluded that the outflow of population from rural areas in the Podlaskie region (NUTS2) took place mostly outside this area, to other Polish cities, mainly to intensively developing industrial cities in Silesia and to Warsaw. Migration within the Podlaskie region took place mainly to Białystok and other smaller cities, which during the PRL (Polish People's Republic – name of the Polish socialistic state between 1952-1989) period were characterised by relatively high development, resulting from the industrialisation carried out in this area, mainly related to the wood industry, food processing and development of the textile and chemical industry. As can be seen from the data presented, this industrialisation was of an intensive nature and allowed for a significant increase in the number of city dwellers.

Table 2.2: The main demographical tendencies in Podlaskie Region 1950-1988 (%)

TERRITORY		YEAR (%)					
		1950	1960	1970	1978	1988	1950-1988
Podlaskie Region, NUTS2	Population	954 815	1 090 231	1 175 760	1 370 282	1 494 511	+ 56.6 (539696)
	Urban	22.4 (214189)	30.1 (327779)	37.2 (436975)	42.2 (610584)	50.9 (793610)	+270.5 579421
	Rural	77.6 (740626)	69.9 (762452)	62.8 (738785)	57.8 (759716)	49.1 (696901)	-5.9 -43725
	Density/ km ²	41	47	51	50	56	+15
Poland	Population	24613684	29405729	32642270	35061450	37878641	+53.9 (13264957)
	Urban	39.0 (9605254)	48.3 (14206112)	52.3 (17064577)	57.5 (20150415)	62.0 (23174726)	+141.3 (13569472)
	Rural	61.0 (15008430)	51.7 (15199617)	47.7 (15577693)	42.5 (14911035)	38.0 (14703915)	-2.03 (-304515)
	Density/ km ²		94	104	112	121	+27

Source: *Podlaskie Voivodeship in the Light of General Censuses*. Statistical Office in Białystok, Białystok 2013.

In the post-war years up to 1989, both in Poland and in the Podlasie region, demographic processes were determined mainly by the economic and social modernization that was being pursued. It consisted of intensive industrialization, with emphasis on heavy industry and rebuilding of society with dominant working class. It also had a zoonotic effect on the area of the contemporary Łomża subregion and the whole Podlaskie Province. Apart from agriculture, industry, mainly textiles, machinery, furniture and wood, was also developed there because of its forest resources. This allowed to find jobs for the rural population, who, due to having small farms, unable to support their families, could earn money in the nearby industrial plants.

On the one hand, in the demographic dimension, after the period of World War II, we had to deal with a significant baby boom, which fell in the 1950s and was the so-called compensation for war losses in the population. Its echo was visible in the 1980s, when we were dealing with the baby boomers again. Between them, there was a demographic lowering at the turn of the 1960s and 1970s caused by the entry into the procreation age of the generation born during the war. These trends also had their stamp in the Podlasie region, as well as in the Łomża subregion.

To sum up, until 1989 the Łomża subregion was characterized by a relatively high natural growth and migration from villages to cities. This was mainly due to modernisation processes taking place on a national scale, as well as in this area, both

in economic and social terms. Since 1989 these processes have been reversed, i.e. natural growth decreasing in the following decades, further outflow of population from rural areas and shrinking of rural, but also urban areas. As it has been said before, this was due to the modernisation processes launched in 1989 and the demographic transition that overlapped them. It is illustrated by the data contained in the tables in Chapter I as well as in Chapter II.

The above mentioned processes affected Poland, and with particular intensity the so-called "eastern wall" (voivodships (NUTS2): Podlaskie, Lubelskie and Podkarpackie), and in its area the case of Łomża subregion (NUTS3) analyzed by us, especially the poviats (LAU1) Siemiatycycki, Hajnowski, Łomżyński. As the data from Chapter I show, the population of the Siemiatycze County (LAU1) analyzed by us decreased during the first 17 years of the 21st century by over 10%. The average population density decreased from 38 to 34 people, and the TFR (1.21) stood out even against the background of the Łomża subregion (1.36), the Podlasie region (1.37) and the whole Poland (1.49). Additionally, the negative tendency is aggravated by migration movements causing outflow of inhabitants from the analysed subregion (NUTS3) (NET migration -5.65), as well as from the Siemiatycze County (LAU1) (NET migration - 0.81). This had a negative impact on the structure of the population, in which the number of people in post-working age increased and decreased in working age. (*GUS – Statistical Yearbooks of Central Statistical Office*).

The shrinkage of rural areas in the analysed area of the Łomża subregion (NUTS3), especially the Siemiatycze County (LAU1) is an element of heritage as well as a consequence of the processes taking place in the last three decades. The outflow of inhabitants from the countryside to the cities in the analysed area is a permanent process and dates back to the post-war period, when the pushy, socialist modernisation and industrialisation attracted the rural population to cities, both in the region and in other parts of Poland. The backward and predominantly agricultural area with excess hands to work in the countryside was able to respond to these trends. After 1989, as a result of a radical restructuring of the economy and the introduction of a free market economy, many enterprises from the chemical and, above all, wood industry, which also employed the rural population, went bankrupt. A sharp rise in unemployment, changes in agriculture, which also caused the collapse of small and backward farms, forced the rural population to migrate, in order to Warsaw, Białystok and abroad. On a national scale, the number of agricultural holdings, mainly small ones, decreased from 2534 thousand in 1988 to 2041.6 thousand in 1996, 1782.3 thousand in 2005 and 1425 thousand in 2018 (*GUS Statistical Yearbooks*). According to the 2010 agricultural census, there were 48,311 farms in the Łomża subregion, of which 48.6% were farms in the 0-5 ha range. In the total number of farms, more than 40% of them were landless farms.

This was compounded by the aforementioned trends of the demographic transition and lowering of the population, which applies to the whole country, and as shown by the data of

the particularly studied subregion (NUTS3). This was naturally reflected in an increase in the percentage of people in the post-working age and a decrease in the pre-working age and, as a consequence, the problem of labour market shortages today. The total number of enterprises per 1000 inhabitants in 2011-2017 decreased (from 4.9 to 4.4), with a slight increase in small enterprises in the same period (61.7 to 68.1). Despite investments in infrastructure, financed mainly from European funds (mainly roads and modernisation of buildings, environmental protection, industrial zones, modernisation of agriculture), the outflow of population from rural areas continues. In the sphere of services (school, medical), local governments remain on the verge of being able to finance them, although the number of doctors or hospital beds per 10 000 inhabitants is growing in the subregion in the years 2001-2017, it still remains at a significantly lower level than it is at the national level. This is due to the historically established peripherality of this subregion. The phenomenon of 'shrinking' is particularly visible at the level of primary and secondary schools, which are closed due to the lack of sufficient number of children. Investment rates, for example of new construction, are falling, although they were still lower than in the whole country. The demographic perspective up to 2050 that simple shrinking will continue, and with it, it is also complex.

To sum up, the Łomża subregion has gone a long way since the post-war period, marked by socio-economic development until 1989, and after 1989 by the collapse and contraction of both rural and urban areas. The main factors responsible for the negative process of shrinking rural areas of the subregion include: peripheral location of the subregion and historically conditioned backwardness, the process of the second demographic transition taking place nationwide, the collapse of local industry after 1989 and the lack of jobs, the unfavourable structure of farm size, which is dominated by small farms, unable to function independently and hindering the development of numerous protected natural areas.

2.3 Local (regional) perceptions and interpretations of shrinkage: discourses, explanations

The vision of "shrinking rural areas", as well as the towns and villages of the Łomża subregion and the Podlasie region to a large extent coincides with objective data on this subject. In their statements, the interviewees drew attention to a number of factors that are responsible for the shrinkage of these areas in both the narrow and broad sense. The most frequent reasons for this process are historical factors. As the interlocutors emphasize, this area was not a border area before the Second World War, which allowed it to develop freely. After World War II it bordered on the USSR and became a peripheral area. Nevertheless, due to industrialization during the period of socialism and the baby boom and its echoes, it could develop. The population had jobs in the emerging factories, mainly in the wood industry, and this was the reason for their departure, especially since, despite the agricultural character of the subregion, small farms and poor quality farmland dominated. Another reason indicated in

relation to the period of real socialism in Poland was aspirations related to social advancement. On the one hand, young people entered cities from the countryside in order to look for a better job, as well as to study, after which they usually stayed in the city. Another reason for the depopulation of the countryside was the demographic decline of the eighties, which accelerated the decline of rural areas. The trips started already in the eighties, or earlier. The reason was the economic and infrastructural backwardness of this subregion and the lack of prospects. People emigrated at that time mainly to large cities such as Białystok, Warsaw, Gdańsk, or Silesia to work in a mine or steelworks (Interview 1 Siemiatycze). In 1990, 76% of agricultural land (14,228,000 ha) in Poland was in use by the private sector consisting of 2,138,000 individual farms (mainly family farms) with an average area of 6.6 ha. Other agricultural land (4,512,000 ha) was used by the State Farms [PGR] (18.7%), Production Cooperatives (3.7%) and Agricultural Associations (1.6%). In fact, 545 State Farms with an average area of 4,800 ha cultivated 77% of the state's agricultural land. Formally, there were 2,233 state-owned farms in Poland in 1990 (Pilichowski A. 1993).

A larger group of factors were pointed out by respondents in relation to the period after 1989, i.e. when there was a political transformation. As they claim, the mitigating impact of socialist industrialisation on the processes of rural depopulation was then abolished. The introduction of the free market economy radically transformed the economic structure of the subregion, causing the collapse of local industry, as well as the selection of farms, which meant the disappearance of the smallest ones and the development of the largest, albeit small ones. As a result, the rural population lost their jobs in agriculture, but also many of the so-called "peasant workers" who worked on the land in a small farm and in nearby factories were forced to leave the village due to lack of work. Farmers from small, neglected and weak farms sought employment outside agriculture. Farmers employed outside agriculture often became from farms with low-quality livestock buildings and farms poorly equipped with agricultural tools. Farmers employed outside agriculture in Poland appeared in the late 1940s. This population reaches its greatest number in the decade of the seventies (it is estimated their number in 1978 at about 110,000 people who own the farm and worker). Usually men because women took care of children and grandparents. Still in the nineties outside the farm worked around 30% of farmers. The place of departure were large cities, and in time, mainly jobs abroad (USA, Germany, Great Britain), and after Poland's entry into the Schengen area also Belgium and Ireland. In a situation where there was a shortage of jobs in Poland, the main direction of departure became abroad.

Today, despite the fact that work is available, the process of depopulation still takes place. This is due, as stakeholders say, to the desire of young people to seek "better living conditions". The basis for this is not a lack of work, but unsatisfactory remuneration for work, which in cities, let alone abroad, is much higher. Moreover, the city provides services at a higher level and more easily accessible (e.g. better schools, hospitals, kindergartens) and makes it easier to find a life partner. It is worth noting at this point that the respondents did not pay attention to demographic factors causing the "shrinking" of rural areas (decrease in

fertility rate, decrease in the number of marriages). However, they see the effects of these processes, i.e. depopulation of rural areas and population ageing.

They are also aware of the process of rural shrinkage in a complex sense. They indicate problems with maintaining the quality of services in rural areas. This concerns especially education, road infrastructure, medical services. Although hard quantitative indicators show that, although the quality of education, number of doctors, or quality of roads improves to a small extent, it concerns rural areas to a small extent. The majority of the surveyed stakeholders perform their functions in the local government (village heads, starosts, marshal's office) and are involved in public matters (farmers, entrepreneurs, LAGs), therefore they are confronted with discussions on the "shrinking" of rural areas, especially in the complex understanding of the process. They point to two ways of communication, one is within the administration, between voivodship authorities (NUTS2) - local government (poviats and municipalities), the other between local governments (mainly municipalities) and inhabitants. The main content of these interactions concerns issues related to access to services and development/modernisation of infrastructure.

The problem of shrinking rural areas is included in the Regional Development Strategy for the Podlaskie Voivodeship (NUTS2) and diagnosed in the document prepared by the Marshal's Office "Analysis of the socio-economic situation of the Podlaskie Voivodeship in the area of influence of the European Social Fund", in which recommendations for action are formulated in order to overcome negative demographic trends, indicates in this case the necessity to: 1. Apply incentives that encourage young people to stay in the voivodeship; 2. Increasing entrepreneurship of young people; 3. Increasing the innovative potential of companies; 4. Adapting the directions of education to the needs of the region; 5. Supporting the growth of fertility through increasing access to nurseries, creating space for active spending of free time by families; 6. Rewarding measures stimulating economic activation of people aged 50+; 7. Undertaking measures supporting active aging (better access to health care, maintaining physical and mental activity of working people (*Analysis of the socio-economic situation of the Podlaskie Voivodeship ...*, 2018)).

The diagnosis of the situation and recommendations for action included in the above mentioned Analysis are included at a fairly general level in the "Development Strategy of the Podlaskie Voivodeship". The strategic objectives are: 1. Competitive economy - development of entrepreneurship, support of professional activity, increase in innovativeness of enterprises; 2. National and international ties - activity of enterprises on the supra-regional market, improvement of investment attractiveness, development of cross-border cooperation, improvement of internal and external communication accessibility; 3. Quality of life - reduction of negative effects of demographic problems, improvement of social cohesion (assistance for the poorest), improvement of health condition of the society, environmental protection.

Although the interviewees are familiar with these documents and other strategies and diagnoses of a local nature, they treat them as meeting the formal requirements for the

use of financial resources rather than fully meeting their needs at the local level. The main criticisms of the existing broadly defined activities related to counteracting rural shrinkage and local and regional development can be summarised as follows. First of all, Poland has bad legislation that hinders development, which is additionally constrained by excessive state intervention and centralisation over the last 4 years. *“The main obstacle is the legislation. One of the limitations was the change of regulations on land trading, which blocked its sale, which in turn made it impossible to merge it, and the lack of merging makes this land unattractive for investors”* (Interview Białystok regional). Moreover, the ministries responsible for rural development and counteracting the effects of rural shrinkage ignore the voices formulated by local governments. Secondly, what reveals the internal diversity of the Łomża subregion (NUTS3), there should be a separate subregion (NUTS3) covering the powiats (LAU1) of Siemiatycze, Bielsk and Hajnówka. This is due to the fact that the problems of depopulation and contraction of rural areas and local economy are similar in them. The remaining part of the subregion is mainly agricultural in nature, and the contraction of rural areas, although present, is to a lesser extent. Thirdly, strategic planning and the translation of existing strategies into practice is underdeveloped. Fourthly, there are inadequate institutional solutions related to the management of the Białowieża Primeval Forest, which makes its use in local development difficult. They consist in the fact that "State Forests" (entity conducting forest management in Poland on behalf of the state) have a dominant position and improperly manage the Białowieża Forest. There is a divergence of interests of the "State Forests", Białowieża National Park and local governments, which hinders development based on the resources of the Forest. *“There is a divergence of interests of the "State Forests", the National Park and local governments. The State should have a decisive voice in managing this development, because it has money at its disposal”* (Interview 5 Hajnówka). Fifthly, there is excessive centralization, which results in marginalization of local governments in deciding on the directions of their development, as well as omitting non-governmental organizations. Sixthly, development is based on institutional solutions and not on conscious, expert planning. Interest in the issues of rural shrinkage exists at local level as long as there are funds to be used for this purpose.

To sum up, the main criticism of the current situation in terms of effectively counteracting the problems of rural shrinkage concerns the marginalisation of local governments (LAU1 and LAU2), whose suggestions are rarely taken into account. The position of the authorities of the Podlaskie region (NUTS2) is more favourable in this respect. Moreover, attention is drawn to the fact that the financing of projects takes place without taking into account the needs, and the main criterion for granting funds is related to the number of inhabitants of a given area, which eliminates small municipalities, affected by the biggest population problems. An important issue hindering development is the low level of awareness of the inhabitants and the facade of the authorities' actions.

The proposed solutions mainly concern the following issues. Firstly, the most important issue is to decentralise financial resources and direct them to the level of districts and

municipalities. Currently, national funds are limited by the state to municipalities. Secondly, better institutional mechanisms should be developed to solve the problems of rural shrinkage. There are various proposals here, ranging from recognising the dominant role of the state in the process of reducing depopulation, through indicating the dominant role of the voivodeship board (regional government NUTS2), to solving these problems by local governments (LAU1 and LAU2), but with central, state funding. Thirdly, it is necessary to provide professional support for local governments in preparing and implementing projects. Fourthly, there is a need for closer cooperation at the level of poviats and gminas, which is present today especially between the three poviats (Siemiatycze, Bielsk and Hajnówka). Smaller municipalities, affected by the largest depopulation, should be merged. *“The smallest communes and districts should also be merged, in a way that covers their specificity. The financial resources should be adapted to the objectives and needs and not to the population of the commune or district. The smallest centres discredit”* (Interview 7 Białystok). Another solution may be central planning and local implementation of programmes, which gives both national expertise and central funding. Fifthly, non-governmental organizations should be involved and intelligent development should be introduced, focused on very specific problems at the gmina level (LAU2) using non-standard activities.

To sum up, in terms of improving the quality of management, local governments should be strengthened and their cooperation increased, and freedom of action in solving their problems should be allowed and financial support should be provided. It is also stressed that the model of development and application of financial resources based on LAGs is the best institutional model for financing local development to date.

3 Responses to the challenge of shrinkage: visions, strategies, policies

3.1 High level (EU and national) and regional policies addressing demographic decline

The interlocutors from the national level participating in measures for rural areas, as officials of one of the departments of the Ministry of Agriculture, point to a number of weaknesses related to the implementation of programmes addressed to rural residents. First of all, they stress the lack of a well thought-out strategy. Despite the fact that the problems are diagnosed well, there are no mechanisms for achieving these objectives. This is reflected in the strategic documents of the rural development programs, which are valid until 2030. They indicate the existence of a "coordination committee" at the level of ministries, which groups people working in various ministries and central institutions who deal with rural and agricultural issues. However, this does not translate into good practice. A similar role is played by the Department of Strategy and Analysis in the Ministry of Agriculture, which is responsible for contacts with other ministries. In practice, this cooperation ends at the official level, as it is the other ministries that generally ignore the demands of the Ministry of Agriculture and Rural Areas when it comes to specific practical actions concerning co-financing of various projects for rural areas. In the perspective of other ministries, the countryside is one of many areas to be treated on an equal footing with others. In the administrative sphere, this cooperation between ministries and central institutions can be considered a good practice, but it is limited to the official level. Essential decisions are made at the political level and here the cooperation ends. Within the ministry of agriculture and rural areas the main focus is on agriculture and farmers, rural areas in the context of depopulation are well diagnosed, but there is no specific coherent programme to counteract this process. The activities of the government and other ministries that introduce programmes for the whole society (e.g. 500+ - a subsidy for each child, school trips, a programme for seniors) are also seen, but in the opinion of the interlocutors, they will not bring the expected effect limiting the depopulation, not only of the countryside but of the whole society.

In this context, it should be noted that the interviewees see a positive impact of operational programs that mitigate this process on rural depopulation. A similar role is played by village renewal programs, which is based on the cooperation of voivodship and local government authorities, right up to the village council. As they say, the elements contained there may improve the quality of life of the village inhabitants and contribute to the young generation staying in the village. However, they consider better earnings in the city and the lack of access to care infrastructure (nurseries, kindergartens, health care) to be the main factors in migration from rural to urban areas and abroad. This makes it difficult for young people (especially women) to take up employment, and when they do, they earn much less than in the city. They indicate that it is the state that should take care of a coherent programme to

solve the problem of rural depopulation.

To sum up, the main problem at the national level is the lack of a coherent programme for villages, which would directly and directly address the issue of shrinking these areas. The measures taken are scattered and are often part of measures taken by other ministries. Moreover, it should be stressed that our interlocutors, although not directly, indicated that the problem is not to diagnose the phenomenon of shrinking of rural areas, but to prepare a specific action plan and especially its implementation, which is a matter of political decisions.

From a regional perspective, the main obstacle to effectively tackling rural shrinkage is bad legislation, which is too complex, including European legislation, and does not allow for unhindered action. Close cooperation between voivodeship authorities (NUTS2) and local authorities (LAU1 and LAU2) should be a desirable mechanism of action. The level of sub-regions (NUTS3) is not perceived by voivodeship authorities and especially by central authorities. This is due to the fact that the NUTS3 level in Poland is separated mainly for statistical purposes, there is no political power within it to link the territory. Therefore, in the context of the discussed problem of rural shrinkage, a model of cooperation between the voivodeship, local governments and non-governmental organisations is desirable, which should be the entities implementing specific recovery programmes, and the central authority should finance it, because the local government is not able to bear these activities financially. Especially since the policy of the Polish government consists in delegating new tasks to self-governments without sufficient financial security for these duties. The interlocutors stress the positive model of cooperation with Local Action Groups (LAGs), which diagnose well the needs of the inhabitants, which are not visible from the voivodeship perspective. This is yet another problem, i.e. not perceiving and not listening to central institutions and the government in the expectations coming from the bottom-up. It is necessary to be open to the dialogue of governmental, regional, local government institutions and non-governmental organisations, which, according to the interlocutor in Poland and the Podlasie region, is not respected. The interlocutors point to a positive example of cooperation between social welfare centres and local action groups (LAGs); regional authorities (NUTS2) - entrepreneurs - local government authorities (LAU1 and LAU2) - non-governmental organisations (NGOs). Cooperation of the region with technical schools and universities and employers to keep educated workers as an example of good practice. In general, it is all about good legislation and non restrictive regulations.

The interviewees also stress the positive role of European funds, because they not only finance rural areas, but also because of them a discussion on the existing problems with depopulation starts, if it wasn't for EU money there would be no discussion on this issue. It is pointed out that the assumption of tourism development in the whole voivodeship is wrong. This path is good only for some municipalities. For the others, separate programmes should be prepared to meet their needs. But, as he says, this is the effect of the wrong direction of communicating the problems. It is so that at first financial resources are offered and

programmes for their implementation are organised, and then all the communes try to do it, whether they need it or not. You should first listen to what the needs of the commune are and then finance them, because otherwise some of the funds are wasted and inefficient development directions are launched in some areas, because if there is money to be used, people use it, whether they need it or not.

To sum up, expectations and good practices should aim at the autonomy of regional and local authorities in defining their needs and directions of development, and resources for their implementation should come from the government and the EU. The directions of development should be varied and selected at the level of municipalities, which today have the most tasks and the least financial resources.

3.1.1 EU and national policies indirectly impacting rural shrinkage

Poland, like most OECD countries, has a greater focus on narrow rural policies, such as the national rural development programme. However, these are complemented with broader policies such as the national and regional development strategies and in operational programmes, such as the programme targeting Poland's eastern regions which have lower economic growth, dispersed settlement patterns and higher rates of poverty. Policies and institutions for rural development in Poland are heavily influenced by the common policies and community method of the European Union. It is important to recognise that there are also a host of policies that are often sectoral in nature that impact rural areas and that are not targeted to place, but that can have territorial consequences nonetheless. These include policies and funding for education, healthcare and social services which may have unique (and sometimes unintended) territorial consequences. A benefit of the broad rural policy approach is that it aims to create a mechanism to overcome this lack of a territorial lens within sectoral policies.

Activities aimed at rural areas and oriented at the reduction and elimination of negative demographic tendencies and their consequences can be found at many levels. On the one hand, there is a broadly defined policy concerning rural areas (and not only them), resulting i.a., from the general development strategy, Europe 2020, and the ensuing strategy for smart and sustainable development adopted by the European Council in 2010. On the basis of this document, recommendations are formulated for each Member State. In the case of Poland, the document that carries out the goals included in the Europe 2020 Strategy is the *Strategy for Responsible Development*, which is an updated version of a previous developmental strategy called *Strategy for Development of Country (Strategia Rozwoju Kraju 2020)*.

The main document on medium-term development, which set out the development activities financed by the EU in the financial perspective 2014-2020). The Responsible Development Strategy is a new version of the previous National Development Strategy 2020, introduced by

Mateusz Morawiecki on 14 February 2017, and is an expression of a change in the state's policy with regard to development directions. This includes a perspective until 2030. The main objective of this Strategy is to change the development management system, including existing strategies, policies and programmes, and to verify the implementation instruments. This strategy is to express a change in the policy of the state under the rule of right-wing parties, in relation to its predecessors. In 2017 a new Partnership Agreement with the EU was prepared, which took into account the changes resulting from the adoption of the Strategy for Responsible Development. On its basis, operational programmes until 2020 were adjusted and new operational programmes will be prepared in the next development perspective 2021-2027. From 2018 onwards, the European Commission successively accepts appropriate changes in programmes and disbursement of funds until 2020, resulting from the adoption of the *Responsible Development Strategy*.

This strategy includes recommendations for public policies. *The Strategy* specifies the basic determinants, goals and directions of development of the country in social, economic, regional and spatial dimensions until 2020 and 2030. Regional policy is expected to increase the effectiveness of public intervention, especially with reference to weaker regions, subregions, towns and rural areas, but not giving up on the use of potentials of highly developed territories. ***One of the pillars of the program, which refers to rural areas in a special way, is socially sensitive and sustainable development (areas: Social cohesion, Sustainable territorial development).***

In addition, at the national level, an operational program is being carried out that serves as the National Strategic Reference Framework. It is a document used in order to implement the National Development Plan; in this case, it will be a new, updated plan *Strategy for Responsible Development*. Thanks to operational programs, it is possible to distribute EU resources. Operational programs can be divided into national ones (administered in Poland by the Ministry of Regional Development), regional ones (administered by voivodeships' authorities) and sectorial ones (covering sectors of the economy and administered by the relevant ministries). National operational programs Poland is going to use in the years 2014-2020 are: The Infrastructure and Environment Operational Programme, Smart Growth Operational Programme, Knowledge Education Development Operational Programme, Digital Poland Operational Programme, Eastern Poland Operational Programme, and Technical Assistance Operational Programme. Each program includes components that directly or indirectly respond to challenges connected with the shrinking of rural areas. Since the voivodeships of the "Eastern Wall" are affected by these phenomena, and Podlaskie Voivodeship suffers from them the most, the Eastern Poland Operational Programme is especially important. Its priority axes are: the development of entrepreneurship, the development of modern transport infrastructure, the development of supranational railroad infrastructure, and technical assistance, serving as the administration support in the implementation of the Program.

Another path of directing European and domestic funds to rural areas is the Rural Development Program administered by the Ministry of Agriculture and Rural Development, and instruments co-funded by the EU are implemented by the Agency for Restructuring and Modernization of Agriculture (the President of the Agency is appointed by the Prime Minister on the proposal of the Minister of Agriculture and Rural Development. The Agency is the executor of tasks in the field of agricultural policy and reports strictly to the Minister of Agriculture and the Minister of Finance on the management of public funds. Since 2017 the Agency is the only EU paying agency in Poland).

One of the priorities of the program is to increase social inclusion, to reduce poverty and to promote economic development in rural areas, which directly and indirectly counteracts the negative tendencies of rural areas shrinking. Furthermore, as part of the RDP (CAP), community-led local development is implemented, based on the LEADER method. Its tasks are to develop entrepreneurship, to preserve local heritage, to counteract social exclusion and to develop tourist infrastructure.

The institution that acts for the benefit of rural areas is the National Network of Rural Development, being part of the European Network of Rural Development (ENRD). Within the network, there is bilateral and multinational collaboration between the networks of Member States. It is used to exchange experiences and good practices.

Apart from programs financed from European sources, the Polish government is carrying out a number of programs (over 100) oriented at rural areas with the total value of approx. PLN 24 billion. These resources are mostly used by local self-governments. These programs refer to i.a., road or housing infrastructure, but they are also soft programs. concerning sport, education, and farmers' wives' associations. It is worth adding that the funds for these programs are distributed by 12 ministries (Ministry of the Family, Labour and Social Policy, Ministry of Agriculture and Rural Development, Ministry of Culture and National Heritage, Ministry of National Education, Ministry of Investment and Development, Ministry of Sport and Tourism, Ministry of the Interior and Administration, Ministry of National Defence, Ministry of Economy, Ministry of the Environment, Ministry of Health, Ministry of Digitisation, Ministry of Infrastructure). Most of these funds are spent in the grant system and concern both villages and small towns up to 20,000 inhabitants; e.g. co-financing of social competences of children and youth (12 million up to 2021), co-financing of public wi-fi networks (120 million), co-financing of child nutrition at school (2.75 billion. by 2023); the multi-annual programme 75 + for the elderly (57 million in 2019); annual subsidy for Rural Housewives' Circles (40 million in 2019); co-financing of Voluntary Fire Brigades (501 million. by 2022) Large multi-annual programmes also concern towns and villages. These include: the "Clean Air" programme to co-finance pro-ecological investments in the system of applying for funds (PLN 103 billion between 2020 and 2029); creation of the Local Government Roads Fund with planned funds of PLN 36 billion by 2028 (PLN 6 billion in 2019), which co-finances projects of renovation and construction of district and commune roads, in the system of applying for funds. Another

program called Agroenergia, financed by the National Fund for Environmental Protection and Water Management, is intended for farmers who want to produce their own energy from renewable sources, in 2019 PLN 200 million was secured for this purpose (Prospects for residents..., 2019).

To sum up, the components of the Polish policy towards rural areas can be divided into the ones financed from European sources and ones financed from domestic sources. European programs are mostly connected with structural and investment funds, i.a.: (European Regional Development Fund (ERDF), European Social Fund (ESF), Cohesion Fund (CF), European Maritime and Fisheries Fund (EMFF), European Agricultural Fund for Rural Development (EAFRD), and Youth Employment Initiative (YEI).

Government's programs are: Poland's long-term goal for rural development – as stated in the Strategy for the Development of Rural Areas, Agriculture and Fisheries – is to improve the quality of life for rural residents and to efficiently use the resources and potential of rural areas, including that of agriculture and fisheries, for the sustainable development of the country. The five specific objectives corresponding to this long-term goal for sustainable rural development are: 1. improving the quality of human and social capital, employment and entrepreneurship in rural areas; 2. improving living conditions in rural areas and their spatial accessibility; 3. food security; 4. increasing the productivity and competitiveness of the agri-food sector; 5. environmental protection and adaptation to climate change in rural areas. These priorities for rural development closely align to that of the EU-Poland Partnership Agreement supports for interventions in rural areas, with the exception that poverty reduction has not been until recently explicitly stated in Poland's national long term strategy. The system of strategic documents for the development of rural areas is depicted in Figure 1 The "Strategy for the Sustainable Development of Rural Areas, Agriculture and Fisheries" is one of the nine integrated strategies for national development.

Beyond national policies that directly target rural areas or sectors, there are a myriad of policies that may not specifically target rural locales but that impact them nevertheless. For example:

1. Social policies such as the "Family 500+" programme, which provides financial support for families with two or more children, can have a greater impact in rural areas where incomes are lower than in urban locales and the financial incentives that that programme creates are thus greater. The programme could help limit child poverty, but it may also lower female labour force participation, which in rural areas of Poland is already low, due to a lack of well-paid jobs.

2. Labour market policies also have important consequences for rural areas. For example, labour force participation may decrease further due to the withdrawal of older workers from

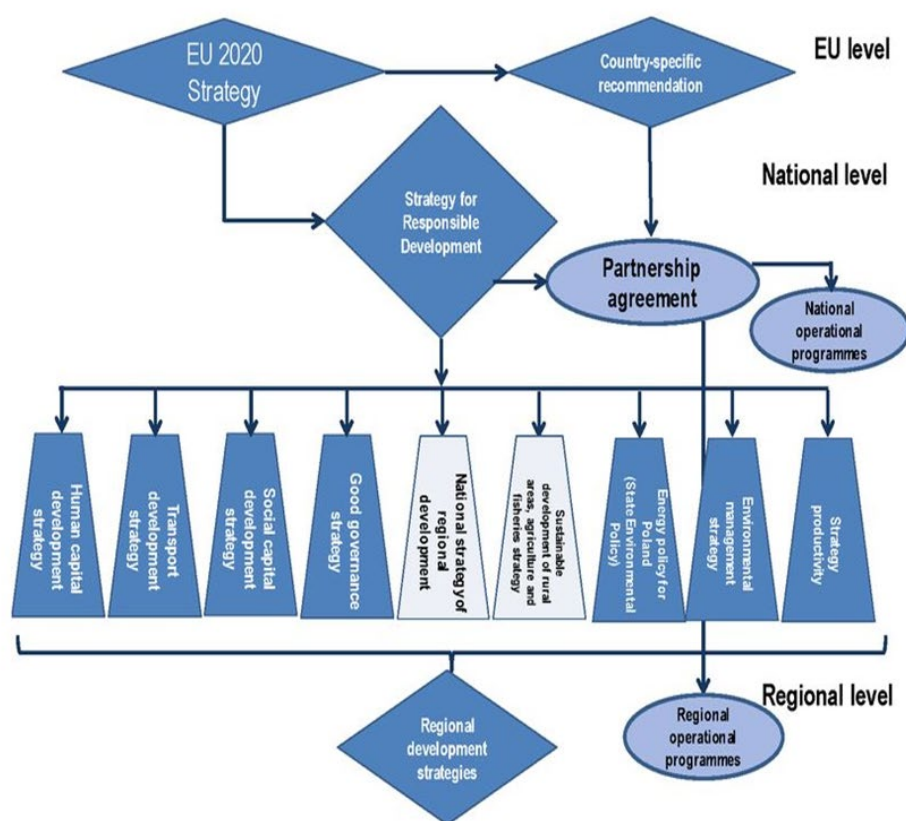
the labour force as a result of the lowering the statutory retirement age in late 2017. This policy may have a disproportionate impact on rural locales where there is a higher concentration of senior residents.

3. Policies regarding the delivery of education and healthcare can impact access in rural areas depending on how they are configured, e.g. regulations about school size and facilities can lead to larger schools at greater distances in rural areas.

4. Environmental policies, such as the protection of watersheds and forests, can disproportionately impact rural areas since they constitute the largest share of land in the country.

5. Transport policies impact rural development by providing linkages to facilitate the movement of goods and people. This includes the network of national roads, railway lines, airports and harbour ports.

Figure 3.1: Strategic documents for the development of rural areas in Poland



Source: OECD Rural Policy Review. Poland 2018. OECD Publishing, Paris 2018, p. 136.

3.1.2 Regional and local policies directly impacting rural shrinkage

The region in which we conducted our research is specific due to its location. The characteristic feature of this region is also that it is one of the poorest in Poland. As we wrote earlier the voivodeships of the "Eastern Wall" are affected by these phenomena, and

Podlaskie Voivodeship (NUTS2) suffers from them the most, the Eastern Poland Operational Programme is especially important. The regional programme for Podlaskie Voivodeship is financed from two sources of EU funds: The European Regional Development Fund and the European Social Fund. EU funding can be accompanied by funding from the state budget or the budget of the voivodeship's self-government. In the course of the programme implementation, additional funds from the entities implementing the projects are involved. The share of particular sources of funding in the programme for Podlaskie Voivodeship is as follows: European Regional Development Fund: 61%, European Social Fund: 24%, national contribution from the state budget: 15%. The Podlaskie Regional Programme for 2014-2020 consisted of 10 priority axes: 1.Strengthening the potential and competitiveness of the region's economy 2.Entrepreneurship and professional activity 3.Competences and qualifications 4.Improving transport accessibility 5. Low-carbon economy 6. Environmental protection and rational management of its resources 7. Improving social cohesion 8. Infrastructure for public services 9. Local development 10. Technical assistance. In addition to the Operational Programme, there are other regional implementation projects that affect the development of the region. Such exemplary projects are: Interreg V-A Lithuania-Poland Cooperation Programme and Poland-Belarus-Ukraine Cross-Border Cooperation Programme 2014-2020 (value of this programme 116 million euro).

A very important programme for rural development at the regional level is the activities under the Rural Development Programme. Agriculture plays the most important economic role in this region, therefore funds from the Common Agricultural Policy (CAP) are very important for its development. In this region, the dominant industry in agriculture is milk production. Some of the most modern dairy farms in Europe are located here. From a regional and local point of view, the LEADER Programme is also of great importance and the network of very well cooperating Local Action Groups (LAGs) not only affects local communities but also has regional effects. For example, the Podlasie Local Product Centre has been established in which LAGs together with local authorities contribute to increasing the welfare of rural residents of the Podlasie region. Selected effects of the Regional Operational Programme of Podlaskie Voivodeship for the years 2014-2020, which are reported by the Marshal's Office (as of October 2019) are among others: 682 entrepreneurs received support, 3009 units of electricity generation from RES, 4988 modernized street lighting points, 278 new jobs, 1317 new places in kindergartens, 363 schools equipped with modern teaching aids, 1771 people with disabilities received support, 751 grants for the unemployed to set up a business, 3737 patients using better health services and 483 subsidized monuments.

In interviews with respondents, the most important projects were those related to infrastructure, mainly roads, but often also those related to water and sewage systems and fiber optic lines providing high-speed Internet. It should be stressed that these projects were almost exclusively implemented by regional and local self-government authorities. The respondents pointed out the importance of funds directed to agriculture:

direct subsidies, funds for mechanization of agriculture, agri-environmental subsidies and other programmes thanks to which farmers who make a living only from food production are not the poorest professional group in this region. In the Łomża subregion (NUTS3), the following operational objectives are pursued in the subregion's strategy to prevent rural shrinkage: 1.1 Improvement of accessibility and quality of economic activity zones, 1.2 Strengthening of human resources and professional activation, 1.3 Improvement of investment attractiveness. For this development of the region (NUTS3) very important investments are communication routes, the European transport corridor so called Via Baltica and Via Carpatia, thanks to which the region has a chance to become an important communication route of European importance. Local governments are trying to carry out road investments in such a way that by building local roads they allow the inhabitants quick access to motorways. This is intended to counteract the peripheral nature of the region, which, according to local authorities, is one of the main reasons for the shrinkage of rural areas. Such programmes are used to achieve this goal: RPOWP "Rebuilding of Roads" Fund of Self-government Roads, Ministry of the Infrastructure 2019-2021 or a project in the Sustainable Development Strategy of the Łomża Functional Area 2014-2020; "We are connected by roads - transport improvements in the Łomża Functional Area". It should be emphasized that communication routes also include the construction and renovation of railway routes and the use of waterways on the Narew and Bug rivers. Many programmes at the regional and local level are aimed at strengthening social infrastructure and developing entrepreneurship. Examples of such projects are; "Business incubator in the Siemiatycze district" Board of the Podlaskie Voivodship 2019-2021. 1.2 million PLN and "Agrotourism and self-employment 45+" in the Sustainable Development Strategy for the Łomża Functional Area 2014-2020. The latter project is interesting because it is based on the use of the natural resource that is the Narew River and is based on the cooperation of local governments through whose area the river flows. It is an example of a bottom-up cooperation initiative and a search for the means by which this project will be possible. Such non-formalised activities in the subregion appeared more often and each time they referred to the use of natural resources. In the Podlaskie Voivodeship Strategy Project to 2030 3 strategic objectives were adopted: 1. Dynamic economy; 2. Resourceful inhabitants; 3. Partnership region.

3.2 Discourses and explanations at national/regional levels concerning policy measures and tools addressing rural shrinkage

The interlocutors from the national level participating in measures for rural areas, as officials of one of the departments of the Ministry of Agriculture, point to a number of weaknesses related to the implementation of programmes addressed to rural residents. ***First of all, they stress the lack of a well thought-out strategy. Despite the fact that the problems are diagnosed well, there are no mechanisms for achieving these objectives.*** This is reflected in the strategic documents of the rural development programs, which are valid until

2030. They indicate the existence of a "coordination committee" at the level of ministries, which groups people working in various ministries and central institutions who deal with rural and agricultural issues. However, this does not translate into good practice. A similar role is played by the Department of Strategy and Analysis in the Ministry of Agriculture, which is responsible for contacts with other ministries. In practice, this cooperation ends at the official level, as it is the other ministries that generally ignore the demands of the Ministry of Agriculture and Rural Areas when it comes to specific practical actions concerning co-financing of various projects for rural areas. In the perspective of other ministries, the countryside is one of many areas to be treated on an equal footing with others. ***In the administrative sphere, this cooperation between ministries and central institutions can be considered a good practice, but it is limited to the official level. Essential decisions are made at the political level and here the cooperation ends.*** Within the ministry of agriculture and rural areas the main focus is on agriculture and farmers, rural areas in the context of depopulation are well diagnosed, but there is no specific coherent programme to counteract this process. The activities of the government and other ministries that introduce programmes for the whole society (e.g. 500+ - a subsidy for each child, school trips, a programme for seniors) are also seen, but in the opinion of the interlocutors, they will not bring the expected effect limiting the depopulation, not only of the countryside but of the whole society.

In this context, it should be noted that the interviewees see a positive impact of operational programs that mitigate this process on rural depopulation. A similar role is played by village renewal programs, which is based on the cooperation of voivodship and local government authorities, right up to the village council. As they say, the elements contained there may improve the quality of life of the village inhabitants and contribute to the young generation staying in the village. However, they consider better earnings in the city and the lack of access to care infrastructure (nurseries, kindergartens, health care) to be the main factors in migration from rural to urban areas and abroad. This makes it difficult for young people (especially women) to take up employment, and when they do, they earn much less than in the city. They indicate that it is the state that should take care of a coherent programme to solve the problem of rural depopulation.

To sum up, the main problem at the national level is the lack of a coherent programme for villages, which would directly and directly address the issue of shrinking these areas. The measures taken are scattered and are often part of measures taken by other ministries. Moreover, it should be stressed that our interlocutors, although not directly, indicated that the problem is not to diagnose the phenomenon of shrinking of rural areas, but to prepare a specific action plan and especially its implementation, which is a matter of political decisions.

From a regional perspective, the main obstacle to effectively tackling rural shrinkage is bad legislation, which is too complex, including European legislation, and does not allow for

unhindered action. Close cooperation between voivodeship authorities (NUTS2) and local authorities (LAU1 and LAU2) should be a desirable mechanism of action. The level of sub-regions (NUTS3) is not perceived by voivodeship authorities and especially by central authorities. This is due to the fact that the NUTS3 level in Poland is separated mainly for statistical purposes, there is no political power within it to link the territory. Therefore, in the context of the discussed problem of rural shrinkage, a model of cooperation between the voivodeship, local governments and non-governmental organisations is desirable, which should be the entities implementing specific recovery programmes, and the central authority should finance it, because the local government is not able to bear these activities financially. Especially since the policy of the Polish government consists in delegating new tasks to self-governments without sufficient financial security for these duties. The interlocutors stress the positive model of cooperation with Local Action Groups (LAGs), which diagnose well the needs of the inhabitants, which are not visible from the voivodeship perspective. ***This is yet another problem, i.e. not perceiving and not listening to central institutions and the government in the expectations coming from the bottom-up. It is necessary to be open to the dialogue of governmental, regional, local government institutions and non-governmental organisations, which, according to the interlocutor in Poland and the Podlasie region, is not respected.*** The interlocutors point to a positive example of cooperation between social welfare centres and local action groups (LAGs); regional authorities (NUTS2) - entrepreneurs - local government authorities (LAU1 and LAU2) - non-governmental organisations (NGOs). Cooperation of the region with technical schools and universities and employers to keep educated workers as an example of good practice. In general, it is all about good legislation and non restrictive regulations.

The interviewees also stress the positive role of European funds, because they not only finance rural areas, but also because of them a discussion on the existing problems with depopulation starts, if it wasn't for EU money there would be no discussion on this issue. It is pointed out that the assumption of tourism development in the whole voivodeship is wrong. This path is good only for some municipalities. For the others, separate programmes should be prepared to meet their needs. But, as he says, this is the effect of the wrong direction of communicating the problems. It is so that at first financial resources are offered and programmes for their implementation are organised, and then all the communes try to do it, whether they need it or not. You should first listen to what the needs of the commune are and then finance them, because otherwise some of the funds are wasted and inefficient development directions are launched in some areas, because if there is money to be used, people use it, whether they need it or not.

To sum up, expectations and good practices should aim at the autonomy of regional and local authorities in defining their needs and directions of development, and resources for their implementation should come from the government and the EU. The directions of development should be varied and selected at the level of municipalities, which today have the most tasks and the least financial resources.

3.3 Local responses to shrinkage

3.3.1 Coping strategies

Counteracting the processes of rural shrinkage did not take an organised form at the local level. Most communes do not have special provisions in their development strategies concerning counteracting depopulation processes. This phenomenon is well-diagnosed at the national and regional level but mainly in a narrow demographic understanding. The research conducted in the Podlaskie Voivodeship shows that such awareness of the need to take actions aimed at mitigating or adapting to the existing conditions is among local leaders. **The dominant strategy of local institutions is to improve technical and social infrastructure** so that the inhabitants will not leave rural areas. **As the main factor causing migration of rural population the respondents mention economic motives.** People leave the village for work because there are no attractive job offers nearby and working on a small farm cannot provide decent living conditions for the family. The low level of human and social capital of the rural population is often a problem affecting the depopulation in this region. Analyses of literature, documents and interviews clearly show the limits of actions taken by institutions to counteract the process of shrinking rural areas. Local authorities (LAU2) most often focus on activities mitigating this process and solve problems from a local perspective. It is most often the construction of a pavement, a common room, a playground, repairing the surface of a local road, organizing festivities, subsidizing school equipment, building a water supply network. Regional authorities (NUTS2) are institutions implementing European and national programmes.

The most important programme affecting regional development in Poland is the Regional Operational Programme (ROP). The objectives of the Regional Operational Programme of Podlaskie Voivodeship result from the Podlaskie Voivodeship Development Strategy to 2020 adopted in September 2013. Frequent beneficiaries of this project are entities operating at the local level and implementing solutions to counteract depopulation processes. These may be private companies which, by introducing innovative solutions, increase competitiveness on the market, create new jobs and transfer more income to the municipal budget. Projects are such an example: Introduction of a new service to the offer of INŻYNIERIA POLSKA by purchasing equipment and increasing employment, financed from RPOWP 2014-2020 (contract number: RPPD.01.05.00-20-0049/16) or a project with which we conducted an interview: “*development of research and development facilities and carrying out R+D works up to the stage of first production in the area of application of herbal raw materials, including post-production herbal waste for production of ecological products*” (Interview 3, Koryciny). **Within the framework of the RPOWP project, over 1900 contracts were concluded in response to the previously announced competitions. This is one of the most important programmes contributing to the improvement of the quality of life of the region's inhabitants.** In Podlaskie

Voivodeship, Local Action Groups (LAGs) benefit from multi-fund support, i.e. they are also financed from RPOWP. There are 16 LAGs in Podlaskie Voivodeship, they are well organised and, as one of the two voivodeships in Poland, they apply the Community-led local development (CLLD) approach, using multi-fund support. Therefore, in RPOWP there is one Axis IX separated from ESF (29 million euro) and one measure in Axis VIII from ERDF resources (30 million euro) for RLKS. Apart from local governments, LAGs are an important actor influencing the improvement of living conditions through the implementation of Local Development Strategies. Local governments in rural areas are highly diversified due to the size of their budgets, which directly translates into the commune (LAU2) and powiat (LAU1) development strategies. Firstly, it is the problem of own contribution to the project that practically eliminates poor gminas from applying for large infrastructural projects. Secondly, poor rural gminas cannot subsidise the basic activities for which they are responsible: education (funding of scholarships, free additional activities), social assistance, basic health care, development of technical infrastructure and the inhabitants must satisfy themselves with a minimum range of services. Apart from RPOWP, local governments, NGOs and inhabitants can benefit from sector projects addressed directly to local communities. Such a sectoral project is run by the Minister of Family, Labour and Social Policy. Local government units of the gmina (LAU2), powiat (LAU1) and voivodeship (NUTS2) level can apply for funds for the development of social assistance for the elderly through creation: Senior+ Day Houses and Senior+ Clubs. In Podlaskie Voivodeship a few dozen of such institutions have been established, among others in the area where we conducted our research in Turośl Kościelna, Zambrów, Hajnówka, Siemiatycze. Another source of funding for projects in rural areas to counteract unfavourable phenomena may be the European Economic Area (EEA) Financial Mechanism. This mechanism is used by local government units in the "Environment, Energy and Climate Change" programme. On the basis of the research carried out, it can be concluded that a significant problem is the coordination of the implementation of projects in rural local communities by independent entities. ***The most frequent situation is overlapping of similar activities carried out by different entities, which implement projects financed from different sources in the so-called soft projects called training projects. The respondents indicated the LEADER Programme as a good example of implementing social policies. There should be one entity which coordinates the activity financed from various sources in a given area, taking care of effective use of funds.***

3.3.2 Available policy tools: take-up rates, opportunities and hindrances

EU, national and regional programmes used by local authorities in rural areas most often use population or population density as the main criterion. The funds allocated for the implementation of the Local Development Strategy depend on the number of inhabitants in the area covered by the LAG measure. This, of course, favours LAGs around larger towns, where usually richer people live than those in peripheral villages. One of the respondents

gave an example that 40 000 inhabitants live in its LAG area and 150 000 in the neighbouring, similar in terms of area. The latter receives much more funds, although it has much better road infrastructure, the communes have a larger budget and the inhabitants are richer. ***A similar example of barriers in applying for funds for infrastructure was given by the head of the commune, who cannot apply for funds for water protection and liquid sewage management because his commune has not enough inhabitants to connect to the sewage system.*** The effect of applying such a criterion will result in the smaller commune not being able to fully arm the building plots with technical infrastructure (there will be no sewage system) and the potential inhabitants will not appear in the small rural commune but will choose the town where the plot will be armed. These barriers to obtaining funds for projects are related to universal criteria used to select projects for both urban and rural areas.

Another example of barriers in obtaining funds from national and regional programs was presented by a doctor running a home hospice in several villages. He wanted to increase the number of community nurses providing support to the sick, but it turned out that the cost of providing this service in peripheral villages is too high. The cost factor of such services in the city is much lower and therefore, ultimately, more community nurses work there. The evaluation criteria for projects implemented in rural areas rarely take into account the higher costs of project implementation, compared to similar measures in the city, for example due to lower population density. These disproportions are also an effect of the sectoral approach to solving problems. The difficulty lies mainly in the divergent political interests of the management of individual ministries. An example is the difficult cooperation between the Ministry of Agriculture and Rural Development and the Ministry of Health, which does not want to change the rules of financing certain medical services due to the place of their provision. In rural areas, access to free medical services is impossible because their profitability is lower and medical institutions simply do not provide them. This is the case with gynaecological offices, which are practically absent in rural health centres. A woman from rural areas has difficult access to a gynaecologist in comparison with women in the city. The Rural Development Programme can be considered as a programme taking into account the specificity of rural areas and agriculture. ***Especially the LEADER programme is an example of wise approach to solving local problems. However, it is also criticized in Poland for a very high level of bureaucracy. Beneficiaries complain that they have to complete a lot of documents, go through complicated assessment stages and as a result they often get discouraged before a good one is signed.***

On closer analysis of the beneficiaries who have benefited several times from the measures offered by the LAGs, it can be observed that these are people who can be called rural elite. Beneficiaries from the so-called disadvantaged groups submit project applications only with the help of LAG office staff. Farmers benefiting from the Common Agricultural Policy projects may count on the support of the Agricultural Advisory Service in applying for EU funds. Programmes from national funds addressed to non-governmental organisations enjoy great

popularity and effectiveness. An example of such a program is the support of Rural Housewives' Circles with the amount of PLN 3 thousand per year in each village. It can be said that these organizations have seen a significant increase in the interest of rural women in activities for the local community. Such programs strengthen the sense of identity with their village and build social capital. The situation is similar in the activities of Voluntary Fire Brigades, in which mainly men operate. An interesting initiative to activate the local community is the village fund. Each village can apply for funds from the municipal budget for the needs of the village. The village council together with the village leader at the village meeting can decide on the most urgent investments in the village. This is an example of place-based policy in territorial development, similar to the LEADER Program. In most cases, small rural municipalities apply for funds from EU, national or regional programmes depending on their needs, as they do not have sufficient funds for their own contribution and take out loans for this purpose. This makes the decision to join a programme usually well-considered. In rich rural gminas, there are situations where only because there was such a possibility of co-financing, e.g. an aquapark was built. After some time, it turns out that the local government has to subsidize this investment and the swimming pool is empty because there are very few people who can swim in the commune or district. In the case study area we heard from the respondents about such an investment.

3.3.3. Local visions concerning future pathways and available policy support

One of the main conditions for improvement in the future seems to be raising awareness of the local population and developing human capital. Such actions will allow the local population to make greater use of their opportunities and resources in the place where they live. From the local point of view, a particularly important measure is the development of communication infrastructure in the broad sense, i.e. on the one hand, access to broadband Internet, which will allow for remote work, and on the other, good road infrastructure, especially the local one, which is often neglected. Nevertheless, it is important to reconstruct railway connections and build a fast railway, which will allow working in cities, including Białystok, and living in the countryside and will give relatively fast access to services offered by cities. According to the interviewees, these are basic activities which should encourage people to stay in the countryside.

Another direction of development, which the interlocutors talk about, is related to the development of medical and rehabilitation services for the region's population and the whole country. The natural values and facilities in the form of the Medical University of Białystok would allow districts without industry and with poor agriculture to develop services related to the region's recreational character on this basis. The interviewees also point to innovative activities, consisting in the creation of thematic clusters, which would allow for the development of multidirectional areas of depopulation (e.g. textile, chemical, ecological food

cluster). They also point to the possibility of developing the so-called "silver economy", which would be related to the provision of services for the elderly, as well as allowing them to undertake work in accordance with their competences and abilities. Finally, they point to the possibility of creating a creative industry based on young people who are able to run businesses with a global reach in their places of residence (example of a person who, working remotely, has introduced personalised computer game controllers to the global market).

It seems that activities related to nature and agriculture are particularly desirable for rural areas. Here possible solutions consist in returning to agriculture as a development factor, but in a new way. It is about conducting agricultural activity in small organic farms, but first of all, it is about ecological management which favours the protection of plant and animal species (mowing, grazing animals, taking care of the landscape). This is supposed to lead to activation of the local population and use of local nature resources at the same time will allow to protect it. This strategy should be complemented by a broadly understood development of ecology consisting of investments in renewable energy sources, which will allow to maintain clean air, strengthen the image of the region and, above all, allow to reduce the cost of living and improve its quality, which will encourage to stay in the area.

As far as possibilities and limitations related to innovation and development are concerned, the interlocutors point out, first of all, to the weakness of local governments (it is mainly about small finances and small powers), as well as competence inconsistency. In the analysed area, the dominant role of "State Forests" in relation to the National Park and local governments is decisive. This leads to a kind of clinch, which is strengthened by the activity of ecologists, who are treated as the main source limiting development. Due to the importance of the Białowieża Forest, which was a source of livelihood for the local population and the basis for the existence of local wood industry, this situation causes discouragement and outflow of the young generation. This divergence of interests causes that the Białowieża Forest is not used for the development of communes and districts where it is located, the right to investment is limited due to environmental protection, also on private land.

It should be stressed that the issue of innovativeness was the subject of research and strategy building both at the level of Podlaskie Voivodeship (NUTS2) and Łomża subregion (NUTS3). Both areas take distant places in Poland in this respect. ***The positive effects of pro-innovative activities include training and counselling, which increased human capital and helped to fight the limitations for innovation in the subregion, mainly: low level of entrepreneurship, low level of social and human trust, low level of social and human capital, poor intersectoral cooperation, insufficient knowledge about development funds.***

Not without significance is also the unfriendly legislation, which equates local entrepreneurs with large corporations, placing impossible legal requirements on them, which in consequence causes reluctance to set up small enterprises in rural areas. Additionally, this is

reinforced by the weak human capital of the local population, which should be strengthened. In this context, there is also talk of the need to shorten the path to obtaining aid funds, both national and European. The legal complexities involved in applying for them, the requirements imposed are often an unbeatable barrier for ordinary people wishing to benefit from aid. Limitations may also include individualism of decision-makers, lack of funds to support access to professional services for the development of innovation, deepening of the distance between centres and peripheries.

The interviewees point first of all to Local Action Groups (LAGs) as those that have proved their worth in applying and sensible use of European funds. They are closest to local communities and best recognize their needs.

The vision of the future of the subregion in the context of the shrinking rural areas presented by the interlocutors is, on the one hand, very rational, on the other hand, quite optimistic and balanced. As they claim, the process of depopulation will continue and may take several dozen years to complete. It cannot be stopped, but its effects can be limited and its ailments mitigated. Within a few decades, the subregion will develop on the basis of its product - organic food and nature. The local village, which requires modernization, will be a comfortable place to live and rest.

4 Matching local visions on future pathways of change with potential policy support

4.1 Towards future pathways: enhanced intervention logic along innovative experiences

In relation to the analyzed area of the Łomża subregion, especially its three poviats (LAU1) (Siemiatycze, Hajnówka and Bielsk), in order to improve pro-development activities, it is necessary, first of all, to order the role played by the "State Forests" institution, which functions in isolation from the local needs of the inhabitants and local governments. Its dominant role in the sphere of forest management causes that this main resource in this area is not used properly, neither as a source of raw material nor as a tourist attraction. Local governments should also be able to decide on the use of the Forest for the development of their economy. If we take into account the activity of ecologists we come to the conclusion that one of the main reasons for young people leaving the region is the blockade of development opportunities caused by the forest protection. This does not mean that this forest area should be exploited in a robbery manner, which is known by local governments. However, it is necessary to enable infrastructural investments related to tourism, which so far cannot be done, often even on private land.

It is advisable to separate a new "southern" subregion (NUTS3) from the existing Łomża subregion (NUTS3), which would include 3 counties (LAU1) Siemiatycze, Hajnówka and Bielsk. It is a homogenous area in terms of socio-economic characteristics and demographic problems. The authorities of these poviats are aware of this and together they are trying to separate such a territorial unit. Then a coherent development programme should be formulated, which would respond to the real problems of this subregion. The current funding, which is provided from European and national funds, is in a way related to the problems of depopulation, and is not aimed directly at counteracting this phenomenon. The visible cooperation between the mentioned districts should be formalised and supported by the regional authorities (NUTS2), which would be a positive model and encouragement for self-government cooperation, which is limited and properly enforced in the subregion, especially where the municipalities have a particularly small population, and the criterion of their number is the basis for granting financial resources in projects. Then, joining forces increases the effectiveness of applying for funds for project implementation. A further conclusion formulated on the basis of what has been said is to merge the smallest gminas into larger ones.

Another element that is related to the issue of innovativeness is training and advisory services for the local population and gmina authorities in order to raise the awareness and human capital of the inhabitants on the one hand and, on the other hand, to provide the inhabitants and gmina authorities with specialist assistants who will prepare professional development plans and provide substantive support in the process of applying for funds.

Binding legal regulations, complicated application procedures and limiting the independence of local governments effectively hamper innovation and the willingness to reach for financial resources. As a result, there is little pro-innovative activity of local authorities.

The continuation of this way of action is to change the education system and propose modern education for entrepreneurship and innovation. Official documents prepared in the Łomża subregion (NUTS3) concerning the development of innovation, indicate the need to create a subregional programme body, whose task will be to set directions of changes in the education system (consisting of people from the area of business, science and local government). This programme should support education in the field of shaping creative and innovative attitudes, teaching entrepreneurship with the use of project work methods, training of teachers in the field of neurodidactics and modern education methods, study visits abroad, creating an academy of new competences. Another aspect of this issue is to involve local and regional academic institutions in researching, diagnosing and solving development problems of local communities. The idea is to create research teams whose task should be to cooperate with local authorities on an ongoing basis and to conduct research on the basis of which the acquired knowledge could be applied in practice for the needs of local authorities.

Civil society is an important area requiring support. Non-governmental organisations should have an active and possibly wide participation in the implementation of development and innovation programmes. The experience of Local Action Groups (LAGs) shows that this way of using funds is the most effective and appreciated by the inhabitants and local leaders. Unfortunately, there is not always recognition from local authorities, who often treat NGOs as competitors in their efforts to obtain funds. Non-governmental organisations should be supported, especially in terms of the expertise they can gain in cooperation with foreign partners and Polish organisations (organisations created by Poles abroad).

To sum up, it is necessary to take actions of a legal nature that will release the potential of local authorities and residents, and their directions of action should be supported by expert knowledge and raising the human and social capital of residents. ***It seems that the most beneficial way to create development and innovation in the examined area are bottom-up activities*** (of gmina and powiat authorities and non-governmental organisations) supported by expert knowledge and financed from external, national and European sources.

4.2 Broadened and more suitable policy support

Achieving the planned objectives requires comprehensive coordination between different actors. All partners involved in implementing the joint strategy must break down barriers to coordination, both at regional and local level. Only then can well thought-out social policy instruments produce the expected results. The region analysed in our case study is a typical agricultural region with underdeveloped road

infrastructure and practically no industry. Its largest resource is the Białowieża Primeval Forest and the natural unpolluted environment. **For the development of this region, the most important policy supporting the inhabitants is the Rural Development Programme**, especially its first pillar supporting agriculture. Research shows that environmental protection combined with agriculture is a desirable future for this region. Therefore, support for farmers should go to those who produce healthy traditional food. There are modern dairy farms in the area and they should also be supported provided that they have sufficient space to produce feed for cows. This could slightly reduce industrial production in the area, which in turn could be detrimental to the environment.

The key to stop the depopulation processes in rural areas is to increase the profitability of food production, which can be achieved by increasing subsidies, shortening food chains, strengthening farmers' market power. A proven way to increase farmers' income is to diversify farm incomes. In the examined region, the funding for rural tourism can be strengthened, as the region's large tourism potential is used to a very small extent. An additional source of income could be provided by helping elderly people living near farms, which could act as care farms using agro-therapy. **Programmes aimed at agriculture should aim to halt further rural deagrarianisation and maintain biodiversity in the area. Policies aimed at agriculture should aim to restore the multifunctional and sustainable agriculture that has existed in the area for centuries.**

Once again, we will stress that this direction of change only makes sense if other measures ensure a sufficiently high income for farmers. Agricultural policy must be conducted from the EU level because we are part of an EU-wide food market and national instruments have very limited effectiveness. The process of depopulation in this area can be halted by creating the right working conditions and a sufficient supply of employment. Adequate working and living conditions are good technical and social infrastructure. Thanks to cohesion and regional development programmes, these areas are increasingly well connected and the level of infrastructure is increasing. **All infrastructure programmes should be continued, as the quality of life of rural residents is improved and living in the city is no longer an indicator of social advancement. In the modern world, education combined with appropriate competences guarantees professional success.** Therefore, there should be programmes supporting education and science in this social infrastructure. Often the reason for the migration of young people is the desire to obtain education in a renowned university. Therefore, programmes strengthening regional science centres can bring many benefits by limiting the migration of young people "for science" and strengthening the competitiveness and innovation of the local economy through cooperation with business. Proposing special programmes for cooperation between regional science centres and leading European universities can strengthen their scientific potential. Such activities should be carried out through EU and national projects due to the high cost of activities. The third type of policies aimed at this area should be related to the protection of natural resources in this region. It is primarily the Białowieża Primeval Forest, wild rivers, unique nature. Policies supporting

environmental protection will influence the increase of the region's value as a place of residence. The effect of economic backwardness may become an endogenous value of the region attracting new inhabitants who value clean air and natural landscape and entrepreneurs investing in "green industry".

The availability of well-paid jobs, the increase in the level of innovativeness in the economy, the maintenance of high natural values of the region may result in the creation of new jobs that will retain or encourage the return of the inhabitants of Podlaskie Voivodeship.

4.3 Enhanced governance approaches

The process of rural shrinkage in the Łomża subregion (NUTS3) is a historical phenomenon. Migration from poor and overpopulated villages to richer regions is a well known and described phenomenon. However, the phenomenon of rural shrinkage that we have been experiencing in this area for 30 years is extremely dangerous. The shrinkage of rural areas does not only take place in the demographic dimension, but also in the economic, cultural and natural dimension. Concentration of food production on large specialist farms, the disappearance of the region's traditional rural culture, the reduction of biodiversity and a change in the natural and cultural landscape. Such problems require non-standard management of activities opposing this process. Management should start with a comprehensive, multidimensional diagnosis of the phenomenon of rural shrinkage at all levels, starting from European, national, regional and local. This diagnosis should prepare a strategy for a multi-sectoral response to rural shrinkage in Europe and in individual EU countries. Such a strategy will provide the appropriate tools for conducting adequate social policies at different levels. ***Coming back to the examined region in Poland, one can have an impression that the Common Agricultural Policy focuses almost exclusively on increasing the economic profitability of food production. Concentration of production and specialisation contributes to the reduction of biodiversity, disappearance of traditional agricultural culture and degradation of natural environment. Similarly, social policy works, which focuses mainly on the quality of human and social capital, usually without taking into account the socio-cultural specificity of the local community.***

In the course of the research, the respondents pointed to the need for more effective intersectoral consultations when introducing new projects. As an example, a national (NUTS1) project to combat transport exclusion can be given, which due to specific procurement regulations will lead to such situations that municipalities will be able to finance transport only within their territory. A rural resident wishing to travel to the city will have to change to a different bus at the border of each municipality, through which the road to the city leads. Local government officials complained that in carrying out most of the projects, they have to collect all national and industry regulations, add regional and local specifics and try to implement the

investments in a dwarfed way. In practice, a marshal, starost or mayor has to carry out projects for which there are usually insufficient funds and complicated departmental regulations additionally hinder its implementation. When implementing a project, the local leader must combine multi-sectoral activities in the area of health care, education, forestry, agriculture, entrepreneurship, road infrastructure, telecommunications.

Lack of intersectoral cooperation was mentioned as an unfavourable phenomenon negatively influencing the process of rural shrinkage, which significantly hinders the management of programmes counteracting the phenomenon of rural depopulation. The lack of cross-sectoral cooperation is visible at all levels of the measure. National experts gave an example of lack of cooperation between the Ministry of Health and the Ministry of Agriculture and Rural Development. At the regional and local level, such examples were much more often related to environmental protection and road infrastructure construction. During the research, our attention was drawn to very poor cooperation between the public, social and business sectors. Examples of bilateral cooperation are visible, mainly between business and local government, while multisectoral cooperation was only formally visible in the LEADER Programme. It seems that in the examined area the cooperation between self-government units looks best, both horizontally and vertically.

An innovative way of coherent and effective management in the context of rural areas contraction could be to establish special regional think tanks dealing with these problems. They should at the same time act as institutions monitoring and evaluating all projects implemented in a given region. The knowledge gained after the evaluation of projects should be transferred to institutions implementing EU, national and regional projects. Such an institution should also train all entities that want to use public funds. There are many social policies in rural areas, various entities apply for funds in order to achieve the intended objectives and it is rare for a commune head (LAU2) to have knowledge about these activities. In order to increase the effectiveness of management, an institution should also be established to cooperate with think tanks and coordinate the implementation of projects at the commune level.

At the EU and national level, as many multi-sectoral programmes to counteract the depopulation processes in rural areas as possible should be created. This will make it easier for entities implementing projects at the local level to implement them and at the same time their effectiveness will be greater.

5 Policy recommendations

With regard to the Łomża sub-region (NUTS3), comments can be made on the recommendations related to policies for development and counteracting rural shrinkage:

- It seems advisable to separate functional areas with a similar risk of shrinking in such a way that its boundaries overlap with the boundaries of the administrative division, i.e. municipalities (LAU2) or districts (LAU1)). The use of NUTS3 statistical units is problematic in this case because these are too large territorial areas, heterogeneous in terms of the intensity of the problems occurring, and do not have any unified power structure.

- The managers of the municipalities and districts affected by the shrinkage declare that they are able to mitigate the effects of this process on their own, provided that a strategic, long-term plan to counteract this phenomenon is prepared and they receive appropriate financial support.

- It is necessary to cooperate between areas affected by the shrinkage, and in extreme cases to connect municipalities with a small population. This should increase their financial capacity and facilitate coordinated action to mitigate the effects of contraction.

- Areas affected by shrinking should be the recipients of special remedial programmes prepared by local authorities, together with expert supervision of their implementation. This will allow a more efficient use of financial resources. The existing programmes are primarily linked to European funds and are certainly conducive to the development of municipalities, districts and regions, but they are not directly aimed at reducing the effects of shrinkage.

- In the structure of designing activities and spending the funds, powiats and gminas should be the leaders, because their authorities know best the problems related to the shrinking of their rural areas. Nevertheless, their activities should be supported by expert knowledge and coordinated by the voivodship self-government (NUTS2) and the government at the stage of preparing and implementing the corrective programme. However, it is necessary to maintain the independence and subjectivity of local governments (LAU1 and NUTS3) as they have the best understanding of the problems related to the shrinking of rural areas in their territory.

- A similar proposal is that programmes to counteract the processes of rural shrinkage should be coordinated by the relevant government institutions. It happens that the implementation of social and infrastructure programmes leads to horizontal and vertical conflicts (between communes, poviats or voivodship authorities), in such a situation it is the central institution coordinating the activities (programmes) that could resolve the disputed issues. The central institution can manage intersectoral activities at various levels (local, subregional, regional, functional areas) which limit the processes of depopulation and contraction of rural areas much more effectively. It is easier for such an institution to force cooperation between institutions responsible for health, social assistance, education or road building.

- In the analyzed area it is necessary to define the competence in the matter of disposing of

the main resource of this area, i.e. the Białowieża Forest. The present situation makes the development of communes and districts, on the area of which the area of the Forest is located, impossible due to the fact of domination of the state management entity "State Forests". This entity does not identify itself in any way with the problems of the local population and conducts its own policy towards the Forest. As a consequence, the forest area has become a burden for many municipalities and a reason to limit the development, when it should be a "flywheel" of this development.

- Programmes aimed at agriculture should aim to halt further rural deagrarianisation and maintain biodiversity in the area. Policies aimed at agriculture should aim to restore the multifunctional and sustainable agriculture that has existed in the area for centuries.

- It is necessary to increase the access of non-governmental organizations to cooperate in solving the problems of rural shrinkage. Local governments should cooperate with these organisations and not treat them as competitors for financial resources. Local NGOs are more sensitive to social problems and are able to use the funds allocated for these purposes more effectively.

- One of the main reasons for migration is low wages in rural areas, so it is necessary to strive to bring them into line with urban wage levels. This can be done either by creating few jobs in the countryside (mainly remote work) or through easy access to urban work for the rural population, thanks to an efficient communication system (good road network, fast train connections).

Conclusions

The Łomża subregion (NUTS3), like the whole Podlaskie Voivodeship (NUTS2), is affected by the process of rural shrinkage, both in the narrow (simple) and broad (complex) sense. This phenomenon concerns cities, as well as rural areas in a particularly intense way. This process occurs to the greatest extent in districts (LAU1) (Siemiatycze, Hajnówka and Bielsk). As the data presented above show, this phenomenon is mainly a result of the historical heritage and contemporary transformation processes taking place in Poland. The quantitative data accurately describe the contraction of the Łomża subregion. Between the early 1990s and 2001, the size of the subregion's population decreased by 3.66%, while between the early 1990s and 2017, by as much as 10.36%. This was also reflected in the process of population ageing, where in the mid-1990s the percentage of people aged 0-14 was 24.17% and in 2017 only 14.07%. At the same time, the number of people in working age increased slightly (from 64.9% to 67.8%) and significantly increased in post-working age. The ageing rate of the subregion's population also increased from 27.5% in 1991 to 34.8% in 2017. At the same time, emigration, which between 2000 and 2017 amounted to - 5.65%, remains relatively high. Demographic trends are accompanied by the subregion's shrinking economic and service sectors. The number of enterprises per 1000 inhabitants is slightly decreasing in the analysed period, the poviats which are part of this subregion are in this respect occupying the final positions within Podlaskie voivodeship. In the sphere of services the number of schools is decreasing and the problem of medical care is growing. Despite a slight increase in the number of hospital beds per 10000 inhabitants, the number of doctors is low and this situation has not improved for many years. In the context of the subregion's aging population, the poor condition of medical care is one of the main problems.

The analysis of official documents shows that the authorities of the region (NUTS2), as well as of the subregion (NUTS3) and, above all, of the districts most affected by the depopulation (LAU1), are aware of the worsening demographic situation and the shrinking of this territory in a complex sense. The official documents, as well as the statements of the participants in the in-depth and group interviews, confirm that in the area of the diagnosis and, to a lesser extent, of the formulated programmes, the situation is not bad. Nevertheless, there are no programmes that are directly aimed at addressing the problems of depopulation and population ageing. The measures taken generally concern the development of various areas (e.g. entrepreneurship, quality of education, road and rail infrastructure, renewable energy sources, tourism, improving care for the elderly, etc.) and indirectly serve to improve the quality of life, which in the long run may limit the outflow of population from the area. In other words, people making decisions at the level of a region, subregion, or powiat, are convinced that the phenomenon of shrinking rural areas in the demographic sense in the examined territory cannot be reversed, although it can be mitigated and adapted to the existing situation.

The main obstacles to solving the problem of rural shrinkage, as the respondents surveyed say, include: legal problems (excessive complexity of the law); the state limiting the subjectivity and independence of local governments; competence disputes between state institutions and local governments as to the possibility of using local resources (Białowieża Primeval Forest); insufficient financial resources; inappropriate distribution criteria for these resources based on the number of inhabitants; low level of social awareness and human capital; low level of social trust; lack of a coherent Program and its central financing.

The right way to overcome this state of affairs should be: separation within the sub-region of functional areas which have similar characteristics and problems related to shrinking; increasing the subjectivity and independence of local governments in solving problems related to the development and shrinking of rural areas, with their simultaneous support by external financing based on the criterion of the problem rather than the number of inhabitants; development of road and technical infrastructure (roads, railways, kindergartens, crèches, broadband Internet) enabling remote work and the possibility of fast movement to city centres and easy access to services; raising social awareness and development of human capital; equalisation of wages in cities and peripheral areas, development of innovations in agriculture and industry; development of entrepreneurship; rational use of local resources with nature and local culture in development processes; expert support in creation and implementation of development programmes; development of civil society.

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Appendix 1

Pictures of the Łomża subregion

Figure A.2: Narew Valley



Figure A.3: Łomża Landscape Park



Figure A.4: Podlasie village



Figure A.5: Białowieża forest



Figure A.6: Protest against cutting out of the Białowieża forest



Figure A.7: Typical agricultural farm – Łomża subregion

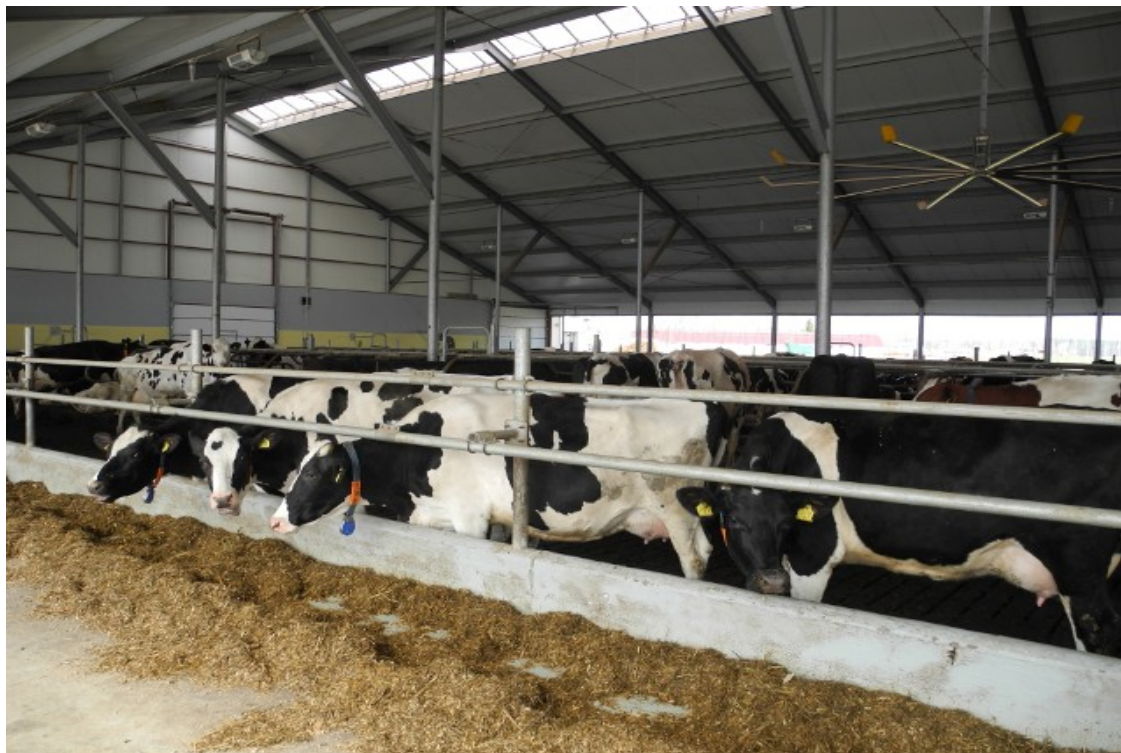


Figure A.8: Agritourist farm - Siemiatycze district



Figure A.9: Traditional rural adornment



Figure A.10: Orthodox church of the Resurrection in Siemiatycze



Figure A.11: Company "Natural Bounty" (Interview 3)

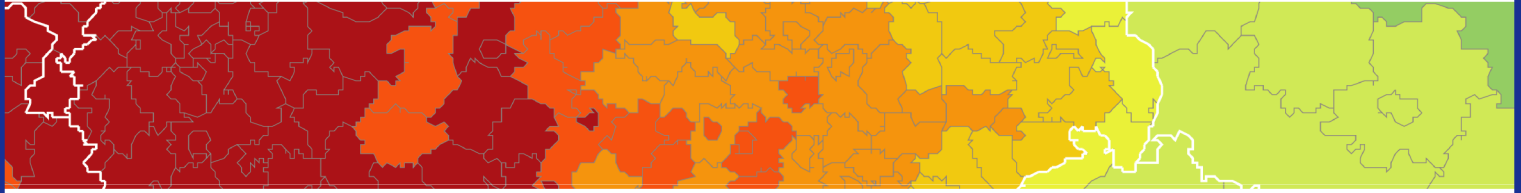


Figure A.12: Company “Natural Bounty” - shop of herbs and spices (Interview 3)



Figure A.13: Natural Bounty” – company owner (Interview 3)





ESPON 2020 – More information

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