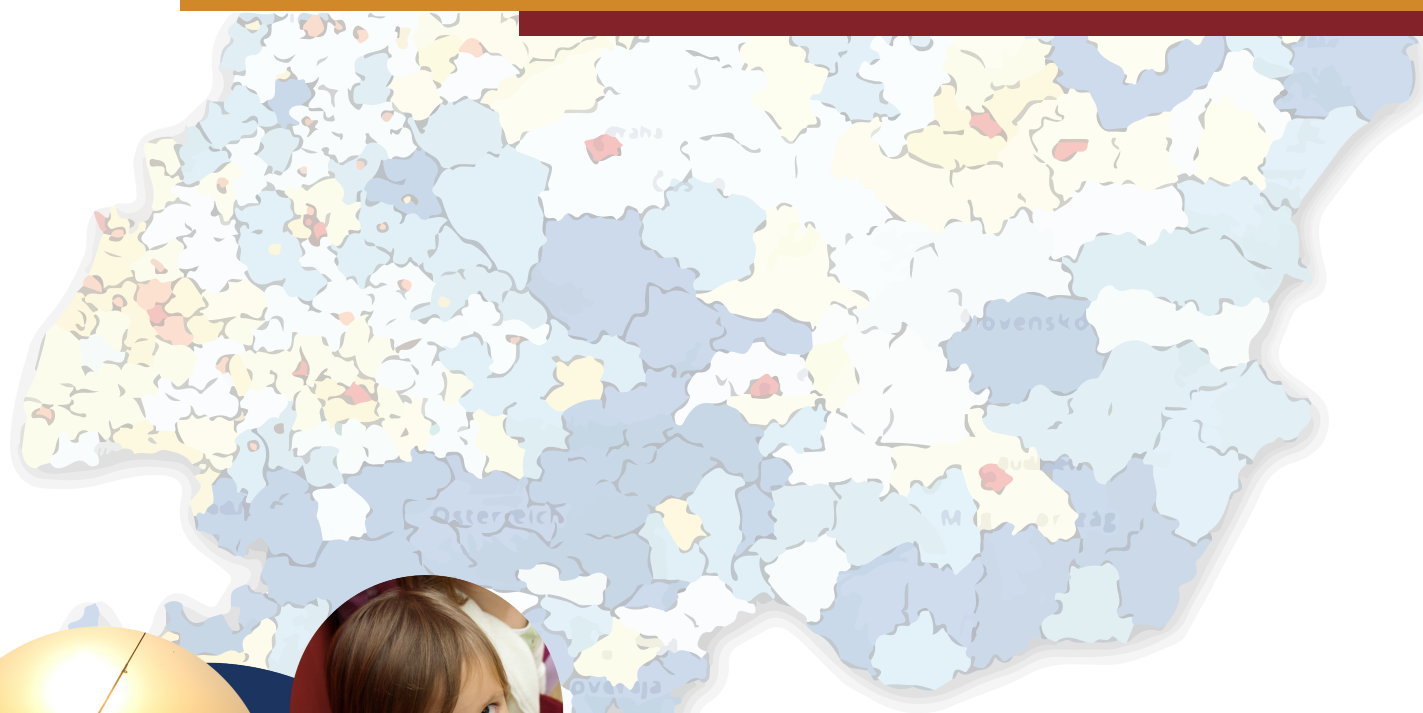




NEW INNOVATIVE SOLUTIONS TO ADAPT GOVERNANCE AND MANAGEMENT OF PUBLIC INFRASTRUCTURES TO DEMOGRAPHIC CHANGE

E-book for tackling infrastructure costs in shrinking regions





E-BOOK FOR TACKLING INFRASTRUCTURE COSTS IN SHRINKING REGIONS

ADAPT2DC Output 6.1.1.

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1. Introduction

For decades, our economic systems and with it the welfare systems have been focused exclusively on growth, both in terms of output generation and in terms of population. However, in the 21st century we are arriving at a point where growth is not necessarily the reality: societies in Europe and the developed countries in general are for the first time stagnating or even diminishing by individual choice, not catastrophes. Most of these countries have birth rates below the replacement level of 2.1 children per woman, and, at the same time, a continuously rising life expectancy, resulting in the ageing of societies.

Population shrinkage and population ageing is already a relevant issue to deal with in Central Europe and its regions. The term 'demographic change' may include several parallel processes and phenomena such as population ageing, low birth rates, changing family structures and migration, however in the framework of the ADAPT2DC project ¹the term 'demographic change' is used in the narrow sense referring mainly to ageing and population shrinkage.

'Demographic change' has become the subject of political debates in many developed countries, as decreasing population and the growing share of elderly people in societies have far-reaching effects on economy, society and environment: jeopardising the operation of welfare systems, impeding economic growth, decreasing social cohesion, leaving behind abandoned housing, services and infrastructure just to name a few. Demographic change is expected to become an issue for many European regions thus it is important to develop innovative strategies and policy tools for how to adapt to it. Demographic change is not only a problem generating new needs for development but also a complex challenge possessing development potentials as well. These potentials provide opportunities also for strengthening economy, for instance by providing alternative social service solutions through involvement of inactive aged people (growing in number) into the social and child

¹ ADAPT2DC project aims to develop transferable strategies for the provision of innovative solutions to restructure the management of services and infrastructure in shrinking regions and cities from Germany (Lead Partner: Thuringian Ministry for Building, Regional Development and Infrastructure, PP2: Leibniz Institute for Regional Geography), Czech Republic (PP4: Institute of Sociology of the Academy of Sciences of the Czech Republic, PP5: Usti Region), Hungary (PP8: Észak-alföld Regional Development Agency Non-profit Limited Company, PP14: Office for National Economic Planning), Italy (PP9: UNCEM, The National Union of Mountain Towns and Communities), Poland (PP10: University of Economics Katowice, PP11: The Malopolska Region) and Slovenia (PP13: Urban Planning Institute of the Republic of Slovenia). The specific objectives of ADAPT2DC are the development of transnational strategies in the field of public infrastructure and services which will help to reduce the maintenance and provision costs in regions and cities under shrinking population conditions. The project aims at finding solutions for regions and small and medium sized cities affected by demographic decline by creating deepened awareness and understanding of the impacts of such decline processes. ADAPT2DC will develop cost effective options and political recommendations for the management of infrastructure and services in these regions and initiate pilot actions to frame and adapt to shrinking processes.

Co-Financer: Central Europe Programme, Restricted call for Strategic Projects

Duration: 1.11.2011 - 30.10.2014

This e-book is a core output of the ADAPT2DC project. It serves as a course material for the trainings and also for other stakeholders (such as policy makers, practitioners, stakeholders from regional and local as well as national and transnational level). The e-book makes it possible to get an insight view and practical knowledge and skills on reorganisation of public services or management of infrastructure.



care services, or developing business serving the aged along the concept of “silver economy”. In spite of these inspiring opportunities, the mission of project ‘ADAPT2DC’ is finding solutions for feasibility of social services in aging local societies, with less emphasis on the opportunities of ageing.

The aim of the present e-book is to share the results of the project ‘ADAPT2DC - New innovative solutions to adapt governance and management of public infrastructures to demographic change in shrinking regions and cities of CE’ with the widest audience. The transfer knowledge to regional stakeholders and policy makers on demographic change especially ageing and population shrinkage, its impacts, good practices to tackle negative consequences in the field of public services (network infrastructures as well as social services), as well as more general policy guidelines for the planning of actions at the regional and local level.

The content of the present e-book is based on several outputs of the ADAPT2DC project that you can find on the www.adapt2dc.eu webpage.

The incorporated outputs were:

- 3.1.5. ‘Demographic Change in Central Europe’, Comparative Socio-Economic Background Analysis
- 3.2.6. Internal Report on Cross analysis of infrastructure and service costs
- 3.2.7. Publication of the cross analysis results
- 3.3.5. Transnational Position Paper for shrinking regions in CE
- 4.1.1. ‘Best practice catalogue’ (cost efficiency of service management)
- 4.1.2. ‘Regional Guidebook Methods to Adapt to or Counterbalance Shrinking’
- 4.2.8. ‘Transnational Guidebook for Pilot Action Implementation’.
- 4.4.1. Joint evaluation of pilot actions
- 4.4.2. Transferability check report (draft version)
- 4.4.3. Development of political recommendations
- 5.2.8. ‘Recommendations from the Best Practice Catalogue’
- 5.3.2. Draft version of the European Strategy
- 5.4.10. Transnational Action Plan (Draft version)

ADAPT2DC is a project funded by the European Commission (grant agreement number 3sCE414P4) focusing on the Central Europe area, consisting of the following countries: Austria, Czech Republic parts of Germany (Mecklenburg-Vorpommern, Brandenburg, Sachsen-Anhalt, Sachsen, Thüringen, Baden-Württemberg, Bayern), Hungary, parts of Italy (Nord Ovest, Nord Est), Poland, Slovakia, Slovenia.

1.1. Who am I and what could be the major fields of my interest in the e-book?

The e-book is especially targeted to practitioners at the local and regional level who face demographic change (ageing, population shrinking, selective migration) in their everyday work, or will be possibly exposed to such changes in the future. Information provided in the e-book is especially useful for:



- policy makers;
- staff of local/regional/national administration;
- development agencies;
- service providers;
- civil and religious associations;
- institutions representing collective interests;
- citizens active in public affairs.

The e-book is focused on the local and regional level, however, it can bear importance for national and transnational level stakeholders as well, by providing an insight on demographic change and its impacts, and presenting guidelines for policy planning.

Contents of the e-book may also be of interest for a wider audience interested in ongoing social changes, the challenges they pose and good practices to tackle them.

Orienting questions:

Who are you, how do you get into contact with the issue of demographic change – ageing, population shrinking and/or selective migration?

Which spatial level(s) is your activity focused on?

Is there a policy field of the ones below which you are especially interested in? What is this policy field?

Economy – information which may be of specific interest to you: [links to Chapter 3.1; Chapter 4.2: long-term economic feasibility, innovative finance]

Social policy – information which may be of specific interest to you: [link to Chapter 3.2]

Spatial, regional planning – information which may be of specific interest to you: [link to Chapter 3.3, Chapter 4.2: acknowledging the reality of shrinking, Chapter 5.2.2]

In which fields of public services are you interested in: transport, water/sewage, health care and long-term care, social services, housing, or local supply?

Transport and mobility – information which may be of specific interest to you: [link to Chapter 5.1.1]

Water/sewage treatment – information which may be of specific interest to you: [link to Chapter 5.2.3]

Health and care – information which may be of specific interest to you: [link to 5.3.1]

Childcare and othe social services – information which may be of specific interest to you: [link to 3.2.3, 5.3.2]



Housing – information which may be of specific interest to you: [link to 3.3, 5.2.2]

Local supply – information which may be of specific interest to you: [link to 5.3.3]

Is there a topic from the ones below which interest you most?

Trends of demographic change – information which may be of specific interest to you: [link to Chapter 2]

Impacts of demographic change – information which may be of specific interest to you: [link to Chapter 3]

Policy framework and guidelines for policy planning – information which may be of specific interest to you: [link to Chapter 4]

Challenges and local solutions – information which may be of specific interest to you: [link to Chapter 5]

1.2. How can this e-book help me?

The e-book consists of four main chapters.

Chapter 2 presents the **main trends of current demographic change in Europe, with a specific focus in Central Europe**. Readers can obtain **information on their own region** through an embedded data base, and **find regions with similar characteristics and problems**.

Chapter 3 discusses the **most important impacts** of ageing and population shrinking on economy, society and the environment. It highlights the difficulties demographic change poses in public finances, including finances in such big welfare systems as health care and pensions, but it also presents the potential brought by ‘silver economy’. It also draws attention to the self-perpetuating process of the concentration of poverty.

Chapter 4 briefly presents the **policy framework** of actions to adapt services and infrastructure to demographic change, and discusses a series of **general guidelines which help to create effective responses** to ageing and shrinking.

Chapter 5 presents **challenges** brought by demographic change in specific infrastructure and service areas, together with **suggestions** to respond to these challenges, and **good practices** already implemented, to inspire practitioners facing similar challenges. Two different infrastructure and service types is presented: **network infrastructures and services** such as transport, water and sewage, and **social infrastructures and services** such as social care, health care, housing and local supply. For example, readers can learn how revitalisation of the inner city and creation of a more compact city structure can go hand in hand with the promotion of an autonomous and active life style for the elderly through the example of Güstrow or how the financial and human resources of citizens can be used to maintain local supply as it happened in Barmen where local residents founded a cooperative to re-establish local services such as a bank, a post office, health insurance office, and a grocery shop offering regional wholesale groceries in an abandoned building.



1.3. How shall I use this e-book?

The e-book consists of **three types of blocks**:

- **information transfer**: text supplemented by visual material to share knowledge
- **review questions** related to the textual information, to help knowledge transfer
- **orienting questions** to help readers to connect information provided in the e-book with their everyday work and experiences.

Readers are encouraged to read the text first, and watch the visual material on topics in their interest, continued by testing their knowledge through the review questions. Then try to apply the knowledge obtained to their specific situation with the help of the orienting questions.

2. Trends of demographic change

2.1. Demographic trends in Europe

Today's demographic changes – population ageing, the slowing down of population growth and the decrease in the growth rate of the working age population – are among the most serious challenges Europe will face in the upcoming decades. Shrinking regions and cities are more and more diffused across the EU, although with a 'great diversity in terms of demographic dynamics and patterns'.² This will be a risk for European competitiveness since the increase of working age population in many other parts of the world is expected to continue. In addition, disparities across European regions may increase. Even though population ageing will affect regions all across Europe, different types of regions will be affected in different ways. In general the level of fertility and the inflow of migrants are high mostly in the more developed regions, whereas in general fertility is low and there is an outflow of young migrants in less developed regions. As a speciality of Central and South-Eastern Europe, there are also less developed regions with high fertility rate (typically small regions, especially under NUTS3 level), with a high share of minorities.

Useful terms

- **Total fertility rate (TFR):** The average number of children that would be born to a woman over her lifetime. It is a synthetic rate based on the age-specific fertility rates of women in their "child-bearing years" ie. 15–49.
- **Replacement level fertility:** The total fertility rate (TFR) that (if sustained) secures the replacement of the current population. In developed countries it is app. 2,1 children per woman.
- **Tempo effect :** The effect of the postponement of childbearing, which results that, fertility rates could decrease in several Member States as women step into their 30s or 40s.
- **Dependency ratio:** The ratio of those typically not in the labour force (the *dependent* part) and those typically in the labour force (the *productive* part). It is used to measure the pressure on productive population.
- **Old-age dependency ratio:** The ratio measures the number of elderly people (above 65 years) as a share of those of working age (aged 15-64). As the ratio increases there may be an increased burden on the productive part of the population to maintain the pensions and other costs of the elderly.

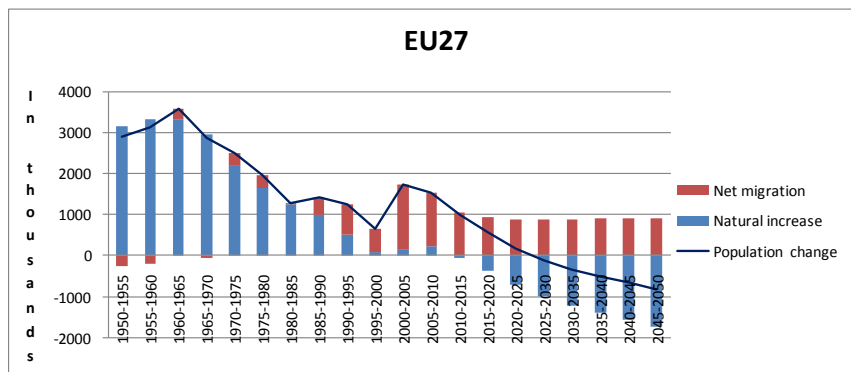
2.1.1. General European tendencies

The population of the European Union has been **growing** and **ageing** steadily in the past decades. **In 2010 the total population of the European Union crossed the 500 million threshold.** The fertility rate of the European Union is 1,6 (2009) which is far below the replacement level. In addition to the

² EC (2008): Fourth Cohesion Report: 10

pro-population policies that aim to increase reproductivity, there are two factors that can mitigate the effects of low fertility levels, and thus postpone the population decrease of the European Union: the first is increasing life expectancy and the second is migration from countries outside the EU.

Figure 1. The composition of population change in the EU



Source: United Nations 2008

Looking at the dynamics of demographic change since the year 2000, there is clear evidence for both processes of **population growth and ageing in the European Union**. In a time span of almost 10 years, the share of the 0-14 age group has diminished significantly, while the share of the elderly – especially of those above age 80 – has grown considerably. These trends show the fact that the **modest population growth of the European Union derives to a greater extent from the high level of migration than from natural population change**. Although the level of net migration has varied significantly over the last ten years, it **was the source of at least two-thirds of the positive population change**.

The **population of the EU will become significantly older** in the next decades, no matter whether the current low fertility rate increases to the replacement level or whether migration from third countries can counterbalance the natural decrease. **Currently the elderly (above 65) make up 17 per cent among the EU's inhabitants**. The increasing number of the elderly in the population is a consequence of longer life expectancy which is definitely a positive phenomenon and characterises the increasing quality of life in the European Union. On the other hand, the old-age dependency ratio is currently 25 per cent and it may increase to 50 per cent by 2050, which would definitely **put pressure on public spending** (first and foremost pensions, health care and social services). Ageing and its fiscal and social consequences – summarised in Chapter 2 [link] – affect all the EU countries (though to varying extent).

2.1.2. Demographic imbalances

Generally speaking the peripheral and sparsely populated areas loose population, while metropolitan regions and regional centres are still attractive. Europe as a whole is more or less involved in a depopulation process, however during the end of 1990s 60% of the regions experienced population



increase, both by natural population growth and positive net-migration. In the 2000s the percentage of regions experiencing population decline has increased to 30 per cent, and the percentage of regions with a high percentage of people aged 65 or over has increased as well. Population growth is unevenly distributed across Europe: between 2000-2008 seven countries of the EU reported population decrease: three Baltic states, Bulgaria, Romania, Hungary, Poland, and Germany.

Natural growth is negative or stagnating in more than one half (16) of the EU countries since 2000, Ireland was the only exception, where natural growth exceeded 0.5 per cent of the total population per year. A number of regions in all Member States experience a constant decrease of population at a restrained pace, but the fast rate of emigration together with a dropping fertility rate is typical to most new Member States and the eastern part of Germany. Since 2000 four countries have reported both negative natural growth and negative net migration: Bulgaria, Latvia, Lithuania and Romania. In four other countries negative natural growth has been compensated for by positive net migration: Germany, Czech Republic, Italy and Slovenia. In two countries net migration was not enough to counterbalance negative natural growth: Estonia and Hungary.

2.1.3. Natural population change

From the 1960s **Total Fertility Rates (TFR)** have declined in every part of Europe and now it is **far below the replacement level (2.1)**, however in most Member States the fertility rate has increased lately (except for Germany and Portugal) most probable because of the tempo effect: women who shifted their childbearing to their 30s or 40s begin to have their children. The fertility rate differs significantly from country to country (ranging from 1.31 in Latvia to 2.07 in Ireland in 2009). Countries with extremely low fertility rates were Spain, Italy, Bulgaria, Slovenia, Hungary, Czech Republic, Estonia and Latvia, however there are quite big regional differences.

There are many theories concerning why the differences in fertility levels exist over Europe. Many focus on the **characteristics of the family, gender relations, religion, the possible role of family policies and the possibility of entry in the labour market**. Other theories connect it to different **welfare state models**. The question of **culture** is also used to explain the differences with regard to fertility among the members of the European Union between East and West, North and South.

2.1.4. Ageing, increase in life expectancy

Ageing is strongly connected to the growing life expectancy of the European population. According to the Demography Report (2010), the **average life expectancy in the countries of the EU27 in 2009 was 82.4 years for women and 76.4 years for men**. This is the result of a steady increase gained by reducing mortality, made primarily by advancement in healthcare. There is, however, still a **significant East-West divide** in the EU, a divide that particularly concerns men, who can expect to live only to around 65-70 years in eight of the Central and East European Member States, compared to an EU-15 average of more than 76 years. In these countries, mortality among middle-aged men remains high, and this is the main factor behind the large East-West gap in life expectancy. In the Baltic states



women live 11 years longer than men, whereas in many western and northern countries the difference is below 5 years.³

The percentage of people aged 65 or over is high in several northern regions (mainly in Sweden), in central regions (mainly in Germany) and in southern regions (in Italy and Spain). The rate of ageing is relatively low in Poland, Ireland and Iceland. Since 2000 the number of **oldest old** (persons over 75) has risen in almost every European regions, without any specific geographical concentration.

As a result, **the old-age dependency ratio**, calculated as the ratio of people aged 65 or above relative to the working-age population aged 15-64, **is projected to more than double in the EU from 25 per cent to 50 per cent in 2050**. The increase is particularly high in Germany, where the working age population has decreased by 3 per cent since 2000, while the number of elderly (65+) increased by 22 per cent. Greece and Italy have experienced a strong increase in the old age dependency ratio as well, but in these countries the working age population has not yet declined.

This means that **the EU would move from having 4 persons of working-age for every person aged over 65 to a ratio of only 2 to 1**. When adding the number of children to the calculation, the ratio of dependent to active is projected to rise by nearly 30 percentage points. These population trends underpin future trends in the labour market which are of crucial importance for economic growth. An indicator of the challenges ahead is the ratio of non-workers to workers, or the economic dependency ratio.

As has been stressed in 'Recent demographic developments in Europe' by the Council of Europe (2002) the European population structure no longer resembles the shape of a pyramid, but rather a snowball. The youngest generations under the age of 20 years have become smaller and smaller. They constitute the smaller future generations of parents, which again leads to a smaller number of births. So **the European population structure, which is already older than most of the countries in the world, shows the characteristic features of further ageing**.

Review questions

Approximately how many people live in the EU today?

What are the main factors affecting population change in a region/country?

How much is the TFR for the EU, and what does it mean?

Which countries have low birth rates in the EU?

Why does the share of the elderly in the population increase? Which processes have an impact on it?

³ However, life expectancy reflects the past behaviour (age-selective mortality) and cannot be simply projected for the future.



How do we measure the share of the active age groups to the elderly? What is term used for such a measurement?

Why does the increase of the share of the elderly cause problems?

Why does the decrease of young people cause problems?

Orienting questions for adapting this training materials to local/national circumstances

Which are the typical demographic processes in your country?

- *How many people live there?*
- *Is there a growing or a shrinking population? Is there natural growth or natural decrease? Is the migration balance positive or negative?*
- *How many children are born in your country per year? How much is the Total Fertility Rate in your country?*
- *What is the expected life span of men and women in your country currently? What was the expected life span 20 years ago? (Life expectancy at birth)*
- *What is the share of the elderly (above 65) in the population in your country?*
- *Are there any regional imbalances in this question? Are there any regions with a different demographic situation?*
- *Do you have any policies concerning demographic changes and their impacts at the national level? If you have, what are their main aims to tackle demographic changes and their impacts?*

If you are not an expert in the above mentioned topics, please visit the website of your national statistical office or the webpage of the EUROSTAT to access the up-to-date information. Eurostat data can be accessed at:

http://epp.eurostat.ec.europa.eu/portal/page/portal/population/data/main_tables

2.2. Demographic trends in Central Europe⁴

2.2.1. General tendencies in Central European countries

Today's demographic changes – population ageing, the slowing down of population growth and the decrease in the growth rate of the working age population – are among the most serious challenges Europe will face in the upcoming decades. Shrinking regions and cities are more and more diffused across the EU, although with a 'great diversity in terms of demographic dynamics and patterns'. This may be a risk for European competitiveness since the increase of working age population in many other parts of the world is expected to continue. In addition, disparities across European regions may

⁴ The present sub-chapter summarises the findings of the ADAPT2DC project output 3.1.5. 'Demographic Change in Central Europe- A socio-economic background analysis'.



increase. Even though population ageing will affect regions all across Europe, different types of regions will be affected in different ways. In general the higher level of fertility and the greater inflow of migrants characterise mostly the more developed regions, whereas in general fertility is low and there is an outflow of young migrants in less developed regions. As a speciality of Central and South-Eastern Europe, there are also less developed regions with high fertility rate (typically small regions, especially under NUTS3 level), with a high share of minorities.

Key demographic processes and challenges in the Central European countries

Austria	<ul style="list-style-type: none"> - low fertility level - average values of life expectancy - moderate ageing
Czech Republic	<ul style="list-style-type: none"> - relatively younger population, but the pace of ageing will be faster - average fertility levels and life expectancy - moderate shrinkage is expected in the near future - population shrinkage in the peripheries - decentralisation from cities to the hinterland
Germany	<ul style="list-style-type: none"> - already an aged population with a low ageing dynamic - high life expectancy, but low fertility levels - high out-migration and fast population shrinkage in eastern Germany - possible shortage in the labour force
Hungary	<ul style="list-style-type: none"> - long-term population decline at the national level due to low fertility levels - low levels of foreign migration, moderate out-migration - de-concentration from cities to their hinterland - life expectancy significantly below the EU-27 average - high male mortality rate
Italy	<ul style="list-style-type: none"> - already an aged population with a low ageing dynamic - high life expectancy, but low fertility levels - high old-age dependency ratio - stable population due to significant immigration from abroad
Poland	<ul style="list-style-type: none"> - high levels of out-migration at the national level - relatively younger population, but the pace of ageing will be faster - population de-concentration from core cities to the suburban hinterland - depopulation of peripheral rural areas - life expectancy and fertility level below the EU-27 average
Slovakia	<ul style="list-style-type: none"> - relatively young population, but very low fertility levels - fast population ageing is expected, especially in rural areas - life expectancy below EU 27 level - population shrinkage at the national level is expected
Slovenia	<ul style="list-style-type: none"> - aged population with a slower pace of ageing - population concentration in the metropolitan region of Ljubljana - average life expectancy and fertility level of the EU-27 - depopulation of rural peripheries

Source: Demography report 2010, SEB Report authors' analysis of scientific literature



2.2.2. Indicators of shrinking

What is a shrinking region?

The concept of 'shrinking region' is a recent one, even if the phenomenon is known for a long time. What is essentially new is that depopulation affects entire regions, including urban areas ('shrinking cities'). The accurate definition of the concept is still subject of debate. Even if the phenomenon of population decline is often linked to ageing, and certain unfavourable economic and social changes, it is preferable to stand by the simplest definition, which is **the reduction in the number of inhabitants of a particular region during a longer time period**. In the framework of the ADAPT2DC project population shrinkage is defined as the **relative decline in the total population size in a NUTS3 region in a ten-year period**.

In line with the definition used by the ADAPT2DC project, the following sub-chapter deals with the demographic aspects of shrinkage (demographic indicators related to population shrinkage: population change, total fertility rate, and components of population change related to shrinking regions and cities).

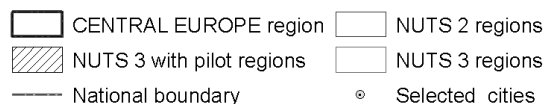
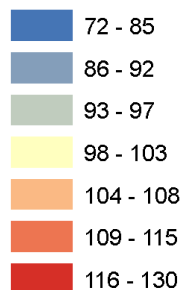
Population change

If we compare the population change between 1991 and 2011 with the population change between 2001 and 2011 we can see that the macro-regional pattern of population growth and shrinkage is relatively stable. At the regional level **population decline has advanced mostly in East German, Polish, and Hungarian regions**. Population decline occurred in **all types of regions – in rural, mixed, and urban regions**. At the macro level, there is a **belt of growing population regions from the Italian north through Austria to south Germany**. These regions rank among regions with a higher GDP per capita and higher disposable income in comparison with other Central European regions. In **Poland, Czech Republic, Slovenia and Hungary the regions surrounding national and bigger regional urban cores are growing**, whereas the **urban cores themselves might be experiencing population decline**. In **Slovakia there are growing regions in north and east due to younger population structures and higher levels of fertility**⁵.

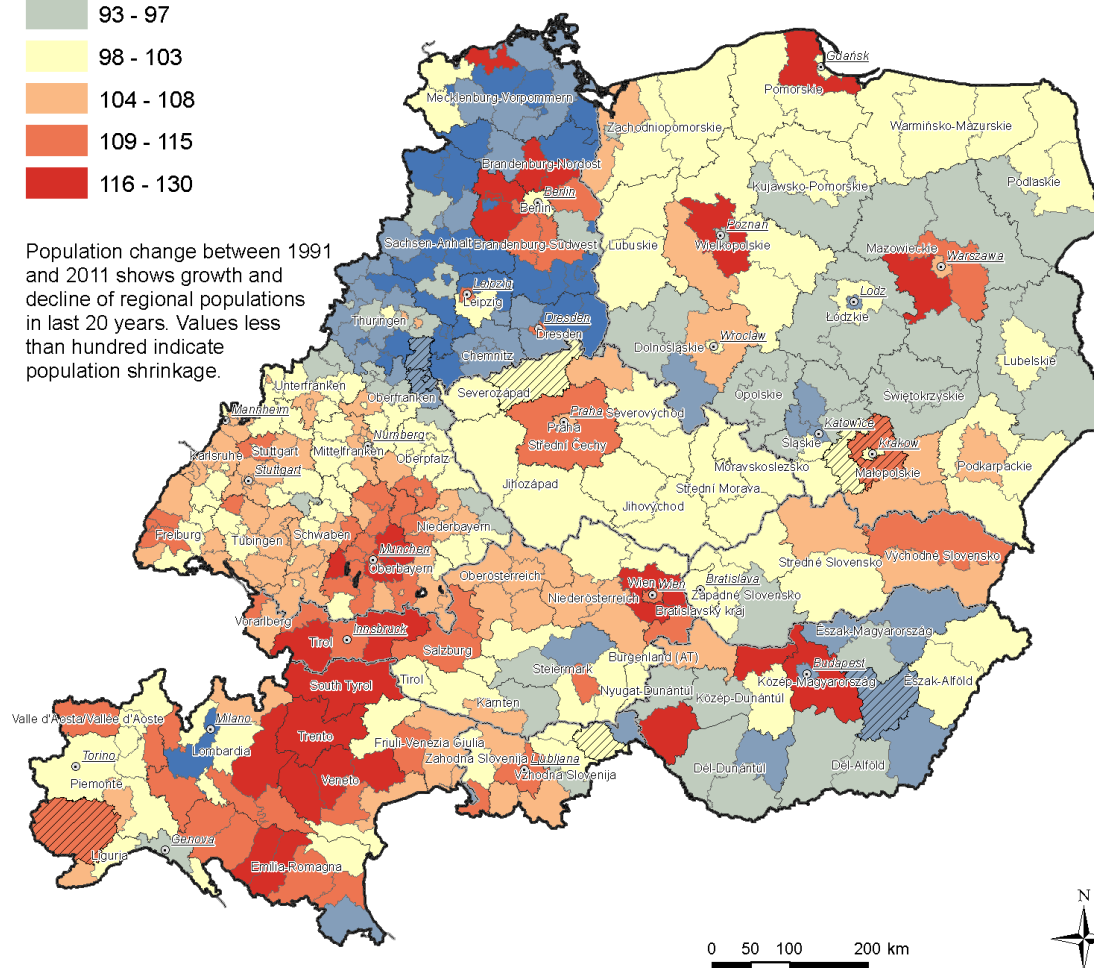
⁵ The source of population growth in this case is typically the high birth rate of households living in deep poverty, with the over-representation of Roma people, who are moving to, or stuck in remote regions struggling with economic difficulties. The favourable demographic situation of these areas is vastly eroded by the economic problems, resulting in high inactivity and unemployment rate of the population. (Gerőházi et al (2011: 13))

Population development in Central Europe 1991-2011

Population change 1991-2011 (%)



Population change between 1991 and 2011 shows growth and decline of regional populations in last 20 years. Values less than hundred indicate population shrinkage.



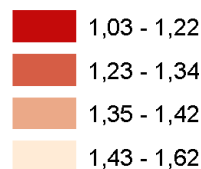


Total fertility rate

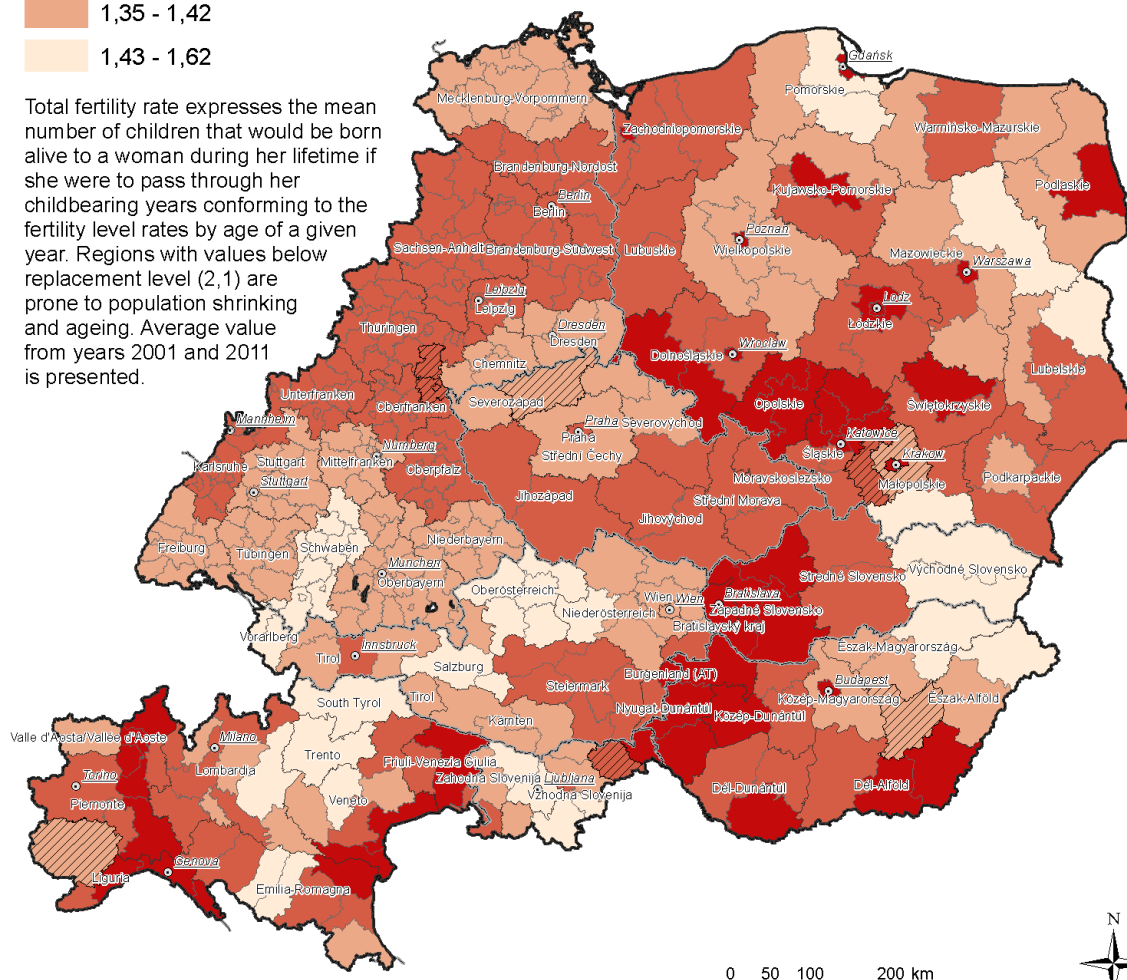
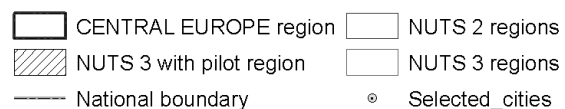
The values of the total fertility rate show **serious risks for future population development**, as all the regions in Central Europe have a fertility level below that required for natural population replacement. The map of total fertility rate provides a rather pessimistic picture of contemporary and future population development in Central Europe. The regional differences in total fertility rate reflect differences in demographic behaviour. In principle, urban regions tend to have lower fertility levels whereas rural regions tend to have higher fertility levels, but the current situation in Central Europe shows a more complex pattern. The slight increase in the total fertility rate observed in recent years may, in part, be attributed to a catch-up process following on the general pattern of postponing having children ('tempo effect'). The highest mean age of women at childbirth is in Italy (31.4), Germany (30.4) and in Slovenia (30.1).

Total fertility rate in Central Europe in 2011

Total fertility rate



Total fertility rate expresses the mean number of children that would be born alive to a woman during her lifetime if she were to pass through her childbearing years conforming to the fertility level rates by age of a given year. Regions with values below replacement level (2,1) are prone to population shrinking and ageing. Average value from years 2001 and 2011 is presented.





Components of population change

Population change is in particular related to two factors: natural population change (births versus deaths) and net migration (immigration versus emigration). Observing the components of population change we can find **more shrinking regions due to both natural change and migration than growing regions due to both natural change and migration**. There are also **about 40 regions that have population growth despite negative natural change, but there are no shrinking regions that have positive values of natural change**. In a large number of Italian regions despite their negative natural change experienced population growth due to migration from other parts of the country and from abroad. A similar situation is observed in the north-western regions of Hungary and the metropolitan hinterland of Berlin. Shrinking regions where natural change is also negative cover most of the eastern German and Hungarian regions; a large share of non-metropolitan regions in Poland, middle-south Austria and south-west Slovakia.







Although migration flows are difficult to predict at the national and as well as regional level, from scientific literature we know that the majority of migration movements are motivated by economic factors. Within the borders of the EU after the access of many former socialist countries in 2004 and 2007 employment-related migration with an emphasis on skilled workers from the new member states to the western countries became the main type of movement, because of huge income differences. In the 1990s, Germany and Austria were the main target countries, after 2000, the Southern European countries (Italy, Spain, Portugal, Greece), Britain and Ireland became major destinations. As an impact of the economic crisis this process stopped or reversed and there has been an intensive migration from the southern countries to the North. This type of migration usually involves active age groups, thus can counterbalances ageing and shrinking in economically attractive cities and regions. On the other hand, it worsens the situation of source countries, not only in demographic terms. It is important to point out that in ageing and shrinking societies there is a growing share of people outside the labour force who migrate for other than economic reasons (retirement migration, amenity migration, etc.).

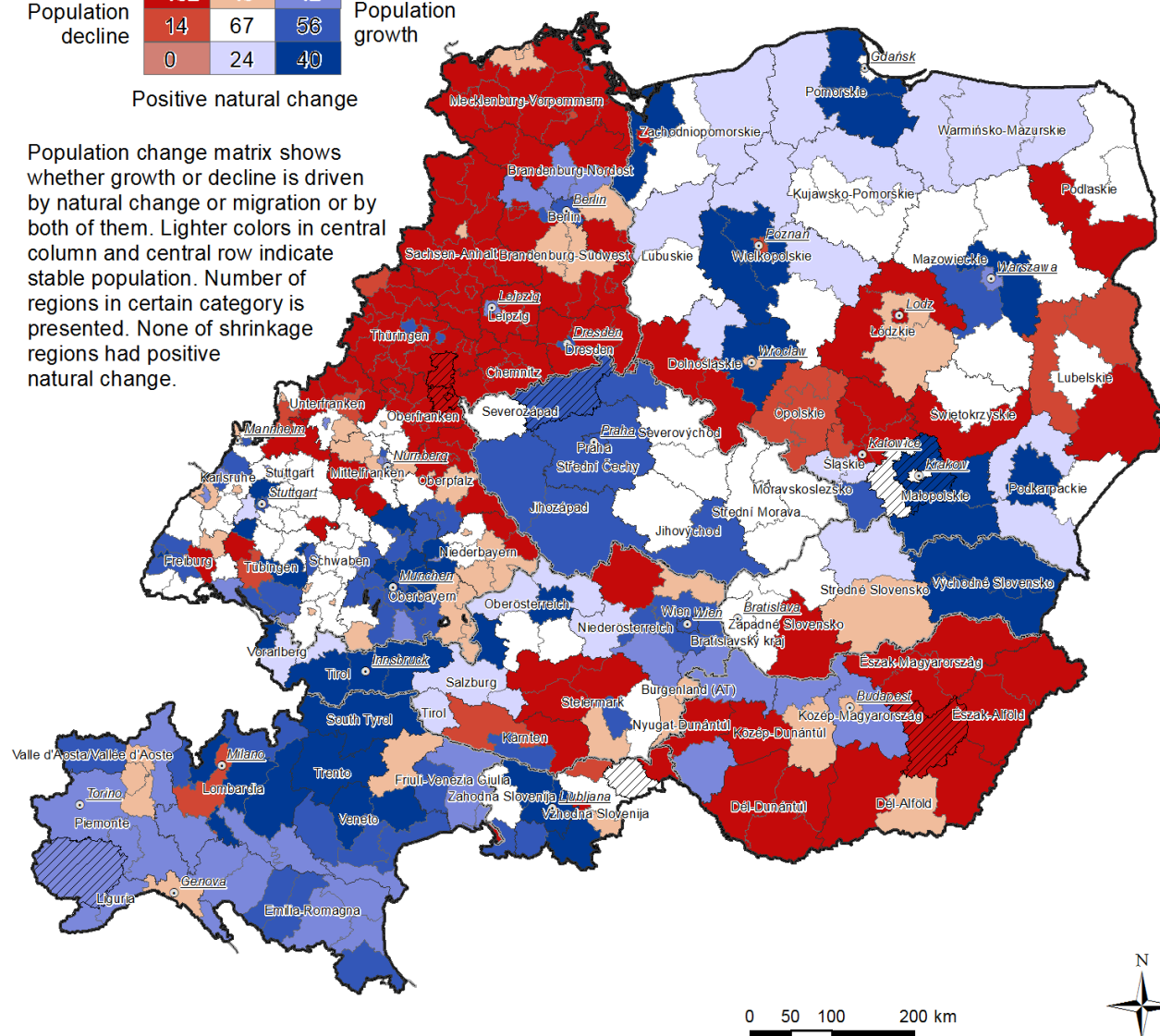
Natural change and migration as components of population change in Central Europe 2001-2011

Components of population change (2001-2011)

	Negative natural change			
Population decline	132	49	42	Population growth
	14	67	56	
	0	24	40	
	Positive natural change			

Population change matrix shows whether growth or decline is driven by natural change or migration or by both of them. Lighter colors in central column and central row indicate stable population. Number of regions in certain category is presented. None of shrinkage regions had positive natural change.

-  CENTRAL EUROPE region
-  NUTS 3 with pilot regions
-  National boundary
-  NUTS 2 regions
-  NUTS 3 regions
-  Selected cities



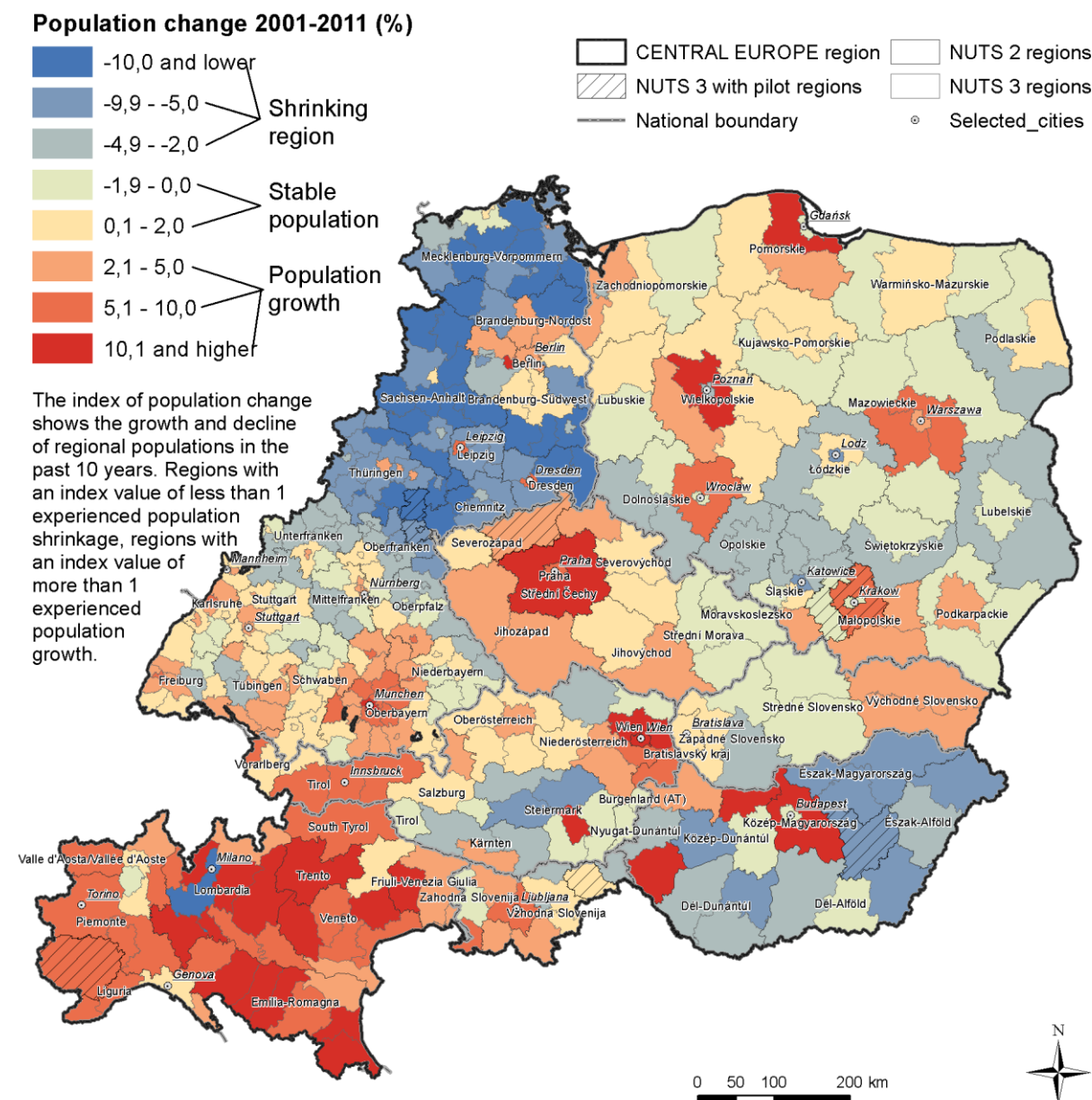


Shrinking regions

At the Central European level there is a **concentrated macro-regional space of population growth from northern Italy, to western Austria, to southern Germany. National metropolises and several second-ratier metropolitan areas also show population growth.** The remaining **non-metropolitan areas** not mentioned in the previous two categories have a **stable** population **or** are experiencing **population shrinkage**. This interpretation of population development is considered to be a broad generalisation to which there are several **exceptions**. Firstly, the cores of some metropolitan regions are experiencing population shrinkage (Milano, Budapest, Lodz) because there is a trend towards metropolisation and population de-concentration from urban cores to wider metropolitan areas. This trend is not uniform in all the countries in Central Europe. In eastern Germany, cities like Leipzig and Dresden are growing, whereas their hinterlands are shrinking. Secondly, as employment centres metropolitan regions compete for labour force not only with other regions in the country but also with other metropolitan regions. Therefore, smaller metropolitan regions or economically less successful metropolitan regions may also experience population decline. Prime examples of this development are former industrial and mining cities located in Poland and the Czech Republic. Thirdly, not all rural regions show similar population development. The fate of rural areas is different fortunes because of their inherited infrastructure and their demographic structure (e.g. see the population growth in east Slovakia or the relatively high fertility in some rural areas of Northeastern Hungary). Contemporary population developments are shaped, among other things, by the changing economy, the environmental qualities of regions and accessibility to metropolitan areas. But, in principle, sparsely populated rural areas are more vulnerable to population shrinking because of their lower population density than urban and metropolitan regions.



Shrinking regions in Central Europe in 2001-2011



2.2.3. Ageing

Ageing means a **growing proportion of elderly age groups** in the total population. One of the widespread indicators of ageing is **mean age**. A higher mean age may be due to the ageing of the population in place, but may also be due to selective out-migration of the younger population. Not only the level of ageing but also the **pace of ageing** is crucial for analysis of population development.

Population ageing is a **widespread phenomenon** in Central Europe. The **pace of ageing is fast** in almost all the regions in Central Europe. The differences between countries and regions are small and a convergence in terms of the level of ageing is to be expected. This also means that regions which



currently have a younger population will be experiencing faster population ageing in the next few decades. The **only exceptions** to this pattern are **regions with long-term migration gains** (e.g. northern Italy) and **metropolitan regions of European importance**.

At the country level there are three basic types:

- the first group consists of Poland, the Czech Republic and Slovakia which have fewer experiences with population ageing and their population age structures do not have a high number of elderly people.
- In the second group are Austria, Slovenia and Hungary, which can be characterised as medium-aged societies. Their mean age is higher and they also have bigger differences between younger and older regions.
- Italy and Germany have older populations and they have some regions with very old populations (the mean age is higher than 45 years; e.g. Savona, Genoa, and Alessandria in Italy, or the majority of regions in former East Germany). Whereas in north Italy and in south Germany the high values of the mean age are the result of long-term ageing processes the situation in former East Germany is caused by the extremely high out-migration of the working-age population in the 90's. Clear spatial division between former East and West Germany is more or less blurred and the pace of ageing is similar in Chemnitz Region, Thüringen, Unterfranken, Oberfranken or Oberpfalz. At the country level there is a slower pace of ageing in northern Italy, which is the result of the positive net migration of working-age populations.

At the regional level there are several noteworthy differences within countries. The effect of ageing is lower in the metropolitan regions of national capitals and in some other second tier metropolitan regions (e.g. Stuttgart, Innsbruck) due to their attractiveness for the younger labour force and for migrants. Polish, Czech, and Hungarian urban regions tend to be older than their surrounding regions due to the residential decentralisation of younger generations from cities to their hinterland. The metropolitan hinterland in such regions tends therefore to be relatively younger than in non-metropolitan areas. A similar situation is in Slovenia, where central regions close to Ljubljana also tend to have younger populations. The situation in Germany is different. In the eastern part the cities are relatively younger than the rural areas around them, but they are still relatively old compared to the Central European average. In the western part of Germany there is a more complex patchwork of younger and older regions. In general, urban and more peripheral regions tend to be older than average. In Austria mountain regions and rural regions have younger populations; only Steiermark, with exception of Graz Region and peripheral Burgenland, have older populations.



Death rates

The rate of deaths is most commonly measured by the **crude death rate**, that is, the number of deaths per year per 1000 residents.

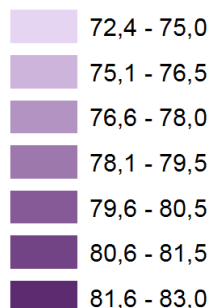
The **regional differences in crude** death rate largely **reflect the age structure of certain regions**. There is one special **exception** concerning former socialist countries and **especially Hungary** which warrants explanation. In **former socialist countries** there was '**excess male mortality**'. It is known from genetics and demography that the average length of life of males and females differs – females live on average a few years more. In former socialist countries this difference between males and females was much larger than in other developed countries. Hungary was one of the countries with a very high excess male mortality and this pattern is still visible in the contemporary crude death rate. The higher male mortality in former socialist countries is usually explained as being the result of unhealthy lifestyle habits and bad socio-economic and working conditions.

Life expectancy

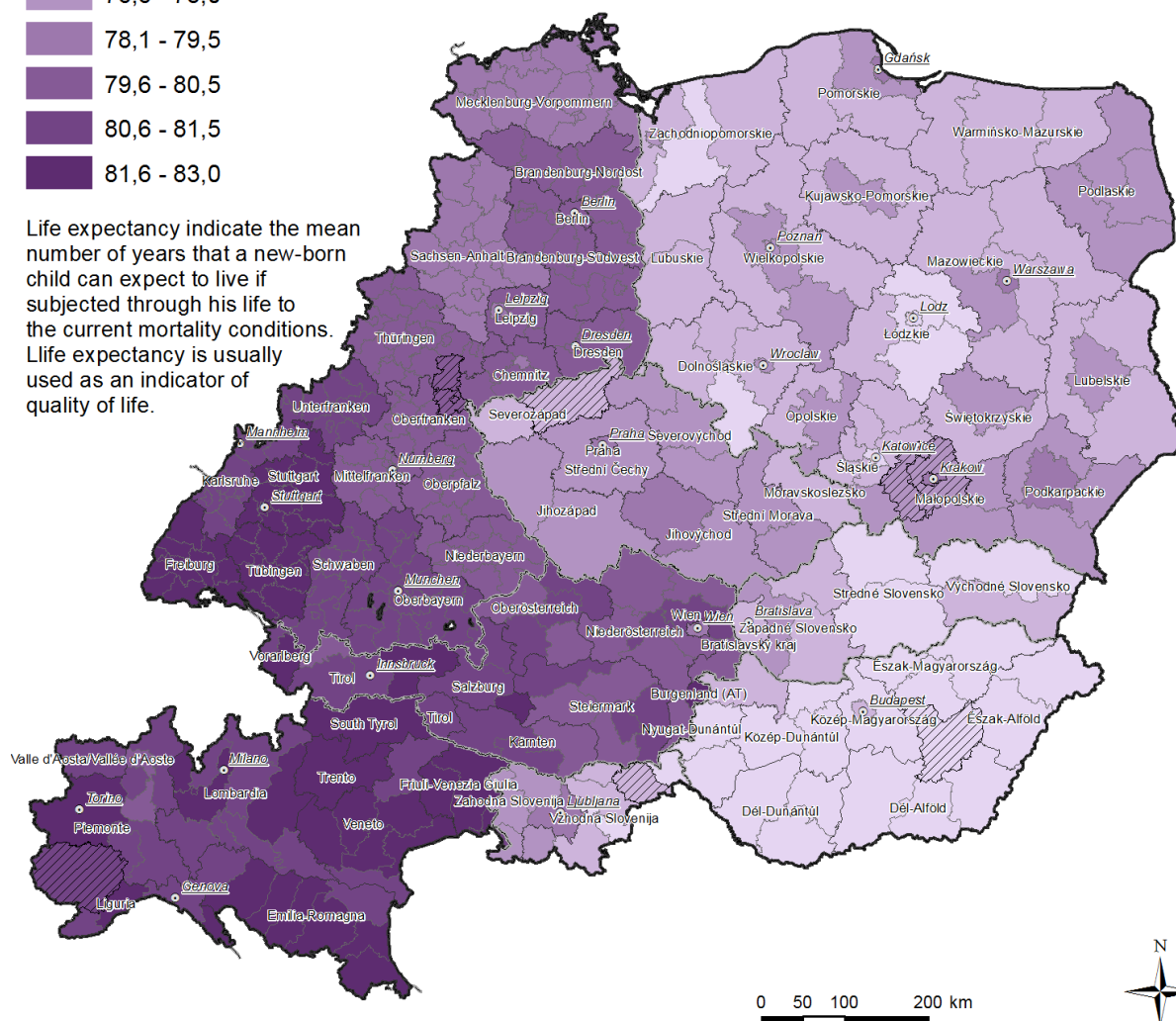
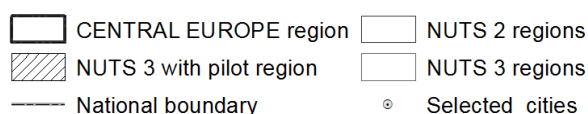
Life expectancy at birth is a synthetic indicator of quality of life which reflects past and current living conditions (the nature of jobs, quality of healthcare, economic and environmental conditions, etc.) and habits (consumption and eating habits, lifestyle, social conditions, etc.). From a demographic perspective a higher life expectancy means a longer period of healthy active life but also a longer period of life with a need for health-care services.

The difference between the highest and the lowest life expectancy on a regional basis is ten years. At the country level there is a **clear division between former western and eastern countries**. In **western** countries (Germany, Austria, Italy) the level of life expectancy is **very high with small regional differences**. In **eastern** countries (Poland, the Czech Republic, Slovakia, Hungary, Slovenia) the level of life expectancy is **lower, with significant regional differences**.

Life expectancy 2011



Life expectancy indicate the mean number of years that a new-born child can expect to live if subjected through his life to the current mortality conditions. Life expectancy is usually used as an indicator of quality of life.



In general, **urban regions tend to have higher levels of life expectancy** (e.g. Prague, Budapest, Krakow, Gdansk, Ljubljana), but there are **several exceptions** with a lower level of life expectancy covering regions with heavy industry or mining (Severozápad and Moravskoslezsko in the Czech Republic, Slaskie and Lodzkie in Poland, Stredné a Východné Slovensko). Higher levels of life expectancy are also found in some traditionally rural regions (Podlaskie, Podkarpackie in Poland, and Vysočina in the Czech Republic). In Slovenia higher levels of life expectancy are in urban regions, whereas lower levels of life expectancy are in remote rural areas. In Hungary life expectancy is generally low in all regions.



2.2.4. Old-age dependency and young-age-dependency ratios

Countries with a younger population and lower life expectancy such as Poland and Slovakia have a low old-age-dependency ratio. Slovenia, the Czech Republic and Hungary have a medium old-age-dependency ratio, but as in the two previous countries it is expected that the value of the old-age-dependency indicator will rise in the next decade. The highest levels of the old-age-dependency ratio are in the East part of Germany. In general, the **differences in the old-age-dependency ratio between regions in Central Europe are high**. In the youngest regions there are one or two post-productive persons (aged 65 and over) to ten people of working age (aged 20 to 65) whereas in the oldest regions there are three or four postproductive persons to ten people of working age. Whereas the border between former Eastern and Western Europe was clearly visible in the old-age-dependency map, in the map of the young-age-dependency ratio it is not that clear. The average ratio of young people (aged less than 20 years) to the working-age population (aged 20 to 65) in regions is around 30 to 35 per cent.

Review questions

What have you learnt about 'shrinking regions'? What are the typical accompaniment processes of population shrinkage?

How do we measure population ageing?

Where do we find the most rapidly shrinking regions in CE?

Which are the regions with the oldest population in CE?

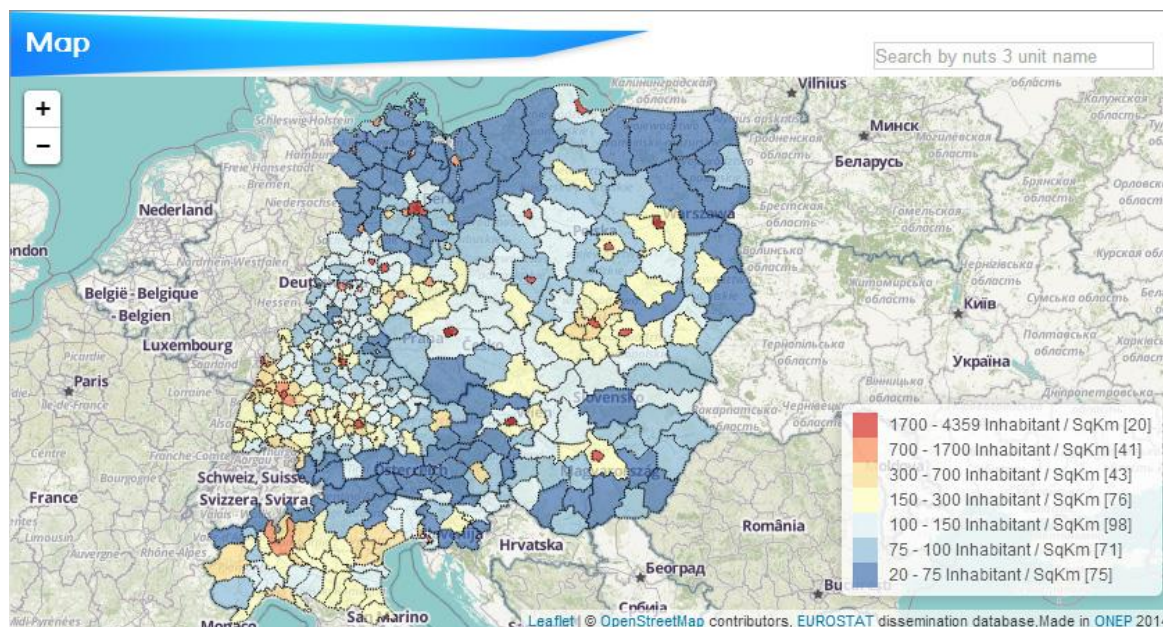
Orienting questions

Which are the typical demographic processes in your region?

- *How many people live there?*
- *Is there a growing or a shrinking population? Is there natural growth or natural decrease? Is the migration balance positive or negative?*
- *How many children are born in your region per year? How much is the Total Fertility Rate in your country?*
- *What is the share of the elderly (above 65) in the population in your region?*
- *Are there any differences within your region in this question? Are there any territorial units with a different demographic character?*
- *Do you have any policies concerning demographic changes and their impacts at the regional level? If you have, what are their main aims to tackle demographic changes and their impacts?*

For specific demographic information on your NUTS3 region, please use the interactive map included in the next sub-chapter!

2.3. Find your region⁶



For further details, see the digital version of the e-book

Limits of comparability – useful to know about the [NUTS3](#) regions in Central Europe

For the Central European area the unit of analysis were NUTS 3 regions as defined by Eurostat (2006 version). As a result of the historical development of NUTS 3 regions there are notable differences in the average size of the area of a region between countries. Poland, the Czech Republic, Slovakia and Hungary have relatively larger NUTS 3 regions which tend to have a more or less similar population size. Therefore a typical NUTS 3 region in these countries includes one or more regionally important cities and its surrounding rural hinterland. Slovenia, Austria and Italy have medium-sized regions. In Austria and Slovenia only regions which include big cities have a bigger population size. All the federal states in Germany have relatively small NUTS 3 regions. Whereas in other countries a regional city and its hinterland together usually form one NUTS 3 region, in Germany the regional city is usually one NUTS 3 region and the hinterland of a regional city is usually another one. In addition, the demographic situation in a region at the NUTS 3 level might not be characteristic for the whole area of a particular NUTS 3 region. The different demographic changes and geographic processes altering the spatial distribution of the population may be going on at the same time. Therefore, for the correct interpretation of demographic development at the NUTS 3 level it is necessary to supplement the data presented with scholarly literature dealing with population geography or spatial demography in particular countries or regions.

⁶ The present sub-chapter is the output of the ISASC based on database for WP 3 “SEB report”.



3. Impacts of demographic change⁷

Demographic change has significant impact on different aspects of economy, society and environment. Below we summarise some of the most important effects of such changes.

3.1. Economy

3.1.1. Macroeconomic impacts of DC

Demographic change affects such important macroeconomic areas as economic growth and public financing. Meanwhile it may also open up new economic segments.

Ageing results in the **decrease of activity rates**, which means that the number of active population (persons between 15-64 years of age as defined by international statistical organisations, definitions may vary between countries) decreases compared to the number of elderly people. The shrinking labour force potentially **impacts economic growth** by decreasing, among others, productivity and investment. The loss of employment opportunities is one of the major causes of population shrinkage, and **the outmigration of younger, more educated** groups of society again leads to **economic decline**.

Demographic change puts **major challenges for public financing**: it **increases demand for certain services**, while at the same time **decreases available resources** for them.

On the one hand, changing age structure **affects the demand for age-related expenditures**. **Pension systems are especially vulnerable** to the effects of ageing, but the demand of other public services, such as **health care and long term care** is also increasing. On the basis of current policies, public expenditures on pensions, health care and long term care are projected to increase by 4.1 per cent to around 29 per cent of GDP between 2010 and 2060 in the EU. Public pension expenditure alone is projected to rise by 1.5 per cent to nearly 13 per cent of the GDP by 2060. In addition, demographic changes will lead to strong pressure to increase public expenditures in other areas as well, such as **infrastructure, housing and education**. Meanwhile, in areas affected by shrinking, **the cost per unit of many services increases** as less and less clients use such services.

On the other hand, ageing and shrinking **decreases the available resources for public services**, as it leads to a decrease in the proportion of taxpayers. Scarcity of resources in shrinking regions is further induced by the fact that **grants and subsidies provided** to local authorities from higher levels of government are often determined (fully or partially) **by the population number**. This is especially problematic at a time when resources are particularly needed to cope with problems arising from shrinking itself. Lack of resources is further exacerbated by the **global economic crisis** since 2008.

Meanwhile, ageing **may open up new economic segments**. The so-called '**silver economy**' refers to

⁷ The present sub-chapter summarises the findings of the ADAPT2DC project output O3.1.5 'Comparative Socio-Economic Background Analysis – Demographic Change in Central Europe', O3.3.5 'Position Paper', 4.1.2 'Regional Guidebook Methods to Adapt to or Counterbalance Shrinking', 5.2.10 'Transnational Review of European and Regional Strategic Documents on Demographic Changes'.

older consumers' rising demand for new types of products and services, such as personalised care, technological solutions enabling people to maintain a healthy and independent life as they age. Such an increased demand creates **new jobs** in relevant production and service areas, such as health and certain social services, thus it presents an **income generation option for economic actors** and a **tax revenue option** for the state. The term 'silver economy' sometimes also encompasses the fact that there is an increasing segment of older workers who ought to be considered a **resource in the labour market** (additional productivity through longer careers, transferable skills to younger workers) contributing to economic growth.⁸

3.1.2. Microeconomic impacts

Demographic change brings about significant change in the needs of local societies. It **changes the demand for goods and services**, especially for those **targeting certain age groups**. Just to name a few, changes may include decreasing clientele of local shops, fewer users of infrastructure such as water and sewage, changing transport needs (in terms of targets, times and physical features), increased demand for health care or home care/assistance, etc.

Decrease in the number of costumers is likely to result in **increasing per capita costs** for services. However, there are differences between services in terms of their sensitivity to changing demographic structure. Certain infrastructure costs are directly related to population numbers, being less cost-effective in case of lower population numbers, such as public transport and water provision. Others are rather related to the age structure of the population, for instance costs of schools, health care, nursing homes are strongly age-dependent. Further types of infrastructure costs are less sensitive to either ageing or shrinking, but are rather linked to the settlement structure of the given area, such as road maintenance.

Moreover, demographic change can have a **different impact in densely and sparsely populated areas**, and the settlement structure of the given area also plays a role. In densely populated urban areas, while population shrinkage may lead to the increase of infrastructure costs per capita (e.g. in public transport and water provision), it does not jeopardise the provision of the services as such. In **sparsely populated areas** such changes **might make service provision untenable or unsupportable**.

Meanwhile **new regulations and technologies may also influence costs**. New/revised regulations and technologies may result in the decrease of costs: e.g. easing standards or the introduction of ICT-based services is likely to have such an effect. However, introduction of new regulations and technologies may also increase costs, e.g. experts asked in the ADAPT2DC project envisage that the costs for operators of public transport will rise because the EU will impose new regulations and technologies, for instance environmentally-friendly technologies.

Increasing costs may render the operation of certain services **economically unfeasible**. The provision of social and cultural services, in particular, is the first to be sacrificed via cuts in the public

⁸ WP5 policy review, citing A. Zaidi, Age friendly goods and services – an opportunity for social and economic development (Poland, 29-30 October 2012) Mobilising the Potential of Active Ageing and Silver Economy: Opportunities and Challenges for Social and Economic Development, ÖSB Consulting, 2012, p. 3.

expenditures as it is often perceived as less necessary than others, such as water and sewage treatment

In sum, demographic change shapes the **demand for services, the per capita costs**, and through this, it may affect the **availability and accessibility of such services**. This is especially true for services targeting certain age groups.

3.1.3. Cost analysis over Central Europe⁹

ADAPT2DC has made a contribution to challenge the bottlenecks of data on public service economics across Europe that could be supportive in policy making. By accessing business intelligence data (Amadeus by Bureau van Dijk) a tailor-fit model was elaborated and implemented. A so called proxy cost ratio (PCR) was calculated in NUTS3 level. **The PCR shows the average sales of specific services per inhabitant of a territory.** It is rather “neutral” as it shows a certain comparable value of service delivered to citizens. It means that **NUTS3 regions can be described by the value of service sold in the investigated fields.** It is not the price of the service. PCR has become central part of the cross analysis of infrastructure and service costs, even though limitations of the approach have been identified (for method and limitations see: Baron, Ochojski, Polko 2014). Social care, health care, public housing, public transport as well as water and sewage have been analysed in terms of PCR at NUTS3 level.¹⁰

[See map of proxy cost ratio for health care in Central Europe on the website](#)

[See map of proxy cost ratio for water and sewage in Central Europe on the website](#)

[See map of proxy cost ratio for public transport in Central Europe on the website](#)

The PCRs were further statistically tested against demographic change, spatial and economic parameters. The analysis for all available PCR observations in Central Europe shows that with a precaution of the known limitations, costs of public services are interrelated with demographic change and economic conditions across Central Europe. Furthermore, the contextual and qualitative premises pinpoint that public service provision much relies upon the spatial characteristics of the territory. For this reason a focused mapping and statistical tests have been done with reference to predominantly urban regions, intermediate regions and predominantly rural regions, according to the classification provided by Eurostat. (a link to deliverable on ADAPT website: Baron, Marcin; Ochojski, Artur; Polko, Adam (2014): Deliverables (output 3.2.6 Collection of socioeconomic background data ADAPTDC project).

⁹ This sub-chapter summaries the results of the Output 3.2.6.'Internal Report on Cross analysis of infrastructure and service costs' written by one of its authors Artur Ochojski (University of Economics in Katowice, Poland).

¹⁰ During the observation of the following maps please keep in mind that data for certain public services were lacking for several spatial units.

3.1.4. Management of public services¹¹

Demographic change and the cost of public service are interrelated within the supply-demand logic of public service delivery. In other words, the management of public service supply needs to challenge the demand-side characteristics with its changing demographic parameters. First of all, it is for local conditions; local decisions of political and managerial nature; that highly influence the economic context of delivery in terms of supply size, quality and costs. Substitutive or competitive goods change the overall supply of a given service locally. Secondly, it may be the national systems that set up general conditions. In other words, state political decisions imply and regulate the delivery process to make it either market, quasi-market or non-market based. They may be very generous to service provision takers so as to enhance the availability of goods and service or several limitations of social or economic nature imply. Also, the level of territorial delivery is different across the countries.

The management of public services has been evolving as a competence extending the pure administrative routine of the administration. The reasons of change are more or less the same everywhere: to make the service standardised - up to the standards of the supplied product, to make it available if the goods are not well supplied and to reduce the cost for the general public. Thus, with knowledge on the globally discussed challenges of economic nature, we may further expect a general pressure on local public service operators, be it a public or a private-based, to make use of available resources in a more efficient and effective way in a longer perspective.

A difference to the demand side is the volume and the structure of the consumers and this is where demographic change comes to the picture.

3.2. Society

3.2.1. Poverty

One of the important factors in shrinking is often **selective migration**: the outmigration of higher status, younger population groups, leaving behind lower status and/or elderly population. Ageing and selective migration processes lead to the **concentration of poverty** in affected areas. Meanwhile, as discussed above, public actors' financial means to provide assistance to combat poverty may decrease.

Elderly people with low socio-economic status in deprived areas are increasingly exposed to the risk of poverty, isolation and social exclusion. In certain countries, elderly women and the very old face an increased poverty risk.¹² Their vulnerability is greater due to decreasing opportunities for

¹¹ This sub-chapter summaries the results of the Output 3.2.6.'Internal Report on Cross analysis of infrastructure and service costs' written by one of its authors Artur Ochojski (University of Economics in Katowice, Poland).

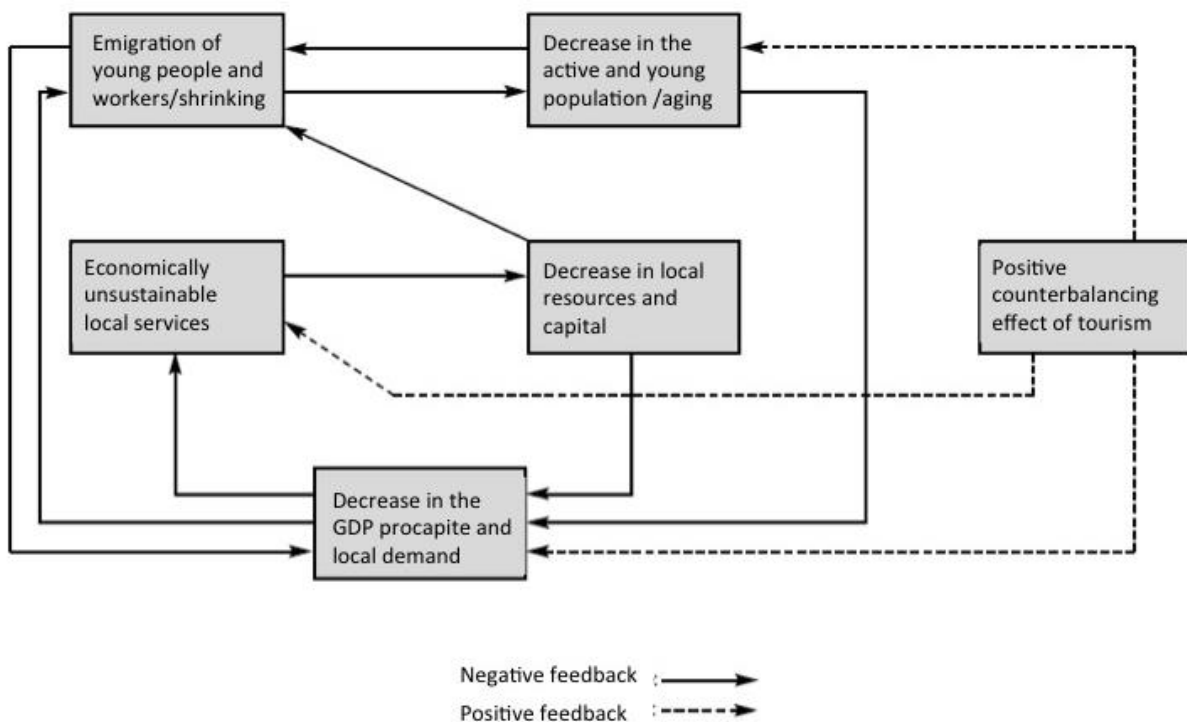
¹² Eurostat: Statistics explained – People at the risk of poverty and social exclusion, http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/People_at_risk_of_poverty_or_social_exclusion#Children_and_active-age_people_more_at_risk_of_poverty_or_social_exclusion_than_elderly_people_in_several_countries

family care, changing family structures and a widening generation divide driven by the internet and new technologies¹³.

3.2.2. Segregation and marginalisation

Emigration of young, active people and the resulting concentration of lower status and/or elderly population results in an **increase in the spatial distance** between different population groups (lower status and higher status, younger and older). Such a spatial distance between different population groups is often referred to as spatial **segregation**.

The spatial concentration of low status population opens a **self-perpetuating circle of poverty and marginalisation**: long-term and selective outmigration of young, active people leads to a decrease in local demand and GDP per capita, which renders local services unfeasible to operate therefore results in their closure, which further decreases the area's attractiveness, and fuels the outmigration of younger and more active people (see Figure X)



Source: adapted from Buran, Aimone, Ferlaine and Migliore (1998:9), cited in *Regional Guidebook – Methods to adapt to or counterbalance shrinking*. Report compiled in the framework of the ADAPT2DC project, p. 7.

¹³ In Central Europe, there are some underdeveloped regions (typically NUTS3 level and under NUTS3 level in Eastern Hungary and in Eastern Slovakia) where not aging is the only driver of demographic change; these regions have high fertility rate. In these regions another aspect of poverty triggered by demographic change can be experienced, the child poverty.

3.2.3. Social cohesion

Ageing and shrinking poses **challenges to social cohesion**. Ageing, accompanied by a mutual lack of understanding of each other's life style (a divide increased by different knowledge and skills concerning the internet and new technologies) and lack of intergenerational support decreases social cohesion. The outmigration of higher status, younger, more mobile population groups, leaving behind lower status groups and elderly population has a similar effect. In addition, ageing and shrinking may lead to a **negative image, stigmatisation of the area** which results in a **decrease of attachment** to the given space by residents, again resulting in decreased social cohesion (and related to this, problems such as deteriorating living conditions due to less care for the built and natural environment, further outmigration etc.) In areas subject to large-scale **migration** in the past decades, social **integration** as well as **age-related problems of residents of foreign origin** may pose specific problems. **Adaptation** of services and infrastructure to demographic change itself can trigger **social tensions** e.g. closure of schools is often subject to protest by local residents.

3.3. Built environment

Population shrinking is likely to result in a **decreased demand for housing** (however it is important to note that housing demand is primarily linked not to population size as such, but the number of households), therefore an increasing number of **vacant housing**. **Industrial downgrading** leaves back **unused industrial facilities and growing brownfield areas**. Shrinkage may also lead to **growing vacancies in public facilities**: hospitals, nurseries, shops, shopping centres.

Vacancies lead to both economic and social problems. They create an oversupply in the property market; therefore **decrease property value** in affected areas. In addition, vacant property poses **security problems** and has a strong negative influence on the **image** of the area which **further depreciates the value of property** in the vicinity. Falling property prices and rents, accompanied by a drop in real estate investments, and a decline of expenditure on maintenance due to lack of both public and private resources lead to a (further) deterioration of buildings.

Shrinking also results in **decreasing demand for infrastructure networks**, such as water and sewage systems, which makes formerly constructed systems difficult to maintain both financially and technically (longer detention times of piped water, increased corrosion of tube materials etc).¹⁴

On the other hand, shrinking provides the opportunity to create a more liveable, less dense living environment and it may remove environmental pressures and increase green spaces. In certain cases after the demolition of unused residential, commercial or industrial objects, new green spaces can be created with parks that increase the quality of the residential environment, however, this solution requires a large amount of public funding.

Meanwhile housing supply **can influence opportunities for population increase**: i.e. adequate housing supply can attract migrants and the availability as well as the affordability of certain housing

¹⁴ Rink, D. et al. (2010) Shrink Smart – The Governance of Shrinkage within the European Context, Research Brief No. 1. November 2010, available at: http://www.ufz.de/export/data/400/39030_D9_Research_Brief_FINAL.pdf.



solutions may have an impact on people's choice. However, it has to be stressed that **housing supply alone is not sufficient to attract newcomers**; the key factor of attractiveness of a given area is its potential to offer **employment opportunities**.

Ageing poses **changing demands** to the built environment, including housing, public buildings, public areas, the type and accessibility of services, institutions and recreational areas. Therefore there is a **need for an adaptation of housing, as well as settlements' socio-spatial structure to the needs of ageing societies**. Adaptation also opens up new employment and economic opportunities for building companies.

Review questions:

How does demographic change affect economic growth?

How does demographic change affect public financing?

What is 'silver economy'?

List a few important changes demographic change brings about in local societies in terms of needs for goods and services!

How does shrinking population affect the costs of services? Name a few services which are very sensitive to age structure. Name a few services very sensitive to population number. Name a few services less sensitive to demographic change.

Why does vacant housing pose a problem?

What does the term 'spatial segregation' mean?

Why is segregation and marginalisation self-perpetuating? What are the main steps of such a process?

Orienting questions:

Were any public services and facilities closed down in your area in the past 10 years? Could demographic change contribute to the decision to close it? What kind of services and facilities are affected? Are there areas where vacant public facilities are more common?

Are you aware of any new services opened in your area in the past 10 years which serves the specific needs of the elderly? What type of services are these?

In case basic and/or specialised health services exist in your area: how did the workload of health service providers change in the past 10 years?

In case elementary schooling is present in your area: how did the number of pupils change in the past 10 years?

How much unused space in public buildings is suitable for future housing units?

How did the housing property prices in your area change in the past 10 years?

Is any of the areas affected by vacant property considered by local society as dangerous and/or 'problematic' in any sense?

Are there any areas in your vicinity where poor people are concentrated? What kind of areas are these? (Urban/rural, physical characteristics, supply with services and infrastructure etc.)

Is there any sign of reuse of vacant property? What kind of reuse is this?



Make a 'problem list' of things in your area which might pose a barrier to elderly people in using public services and spaces!

In case shutdown of services and/or infrastructure took place in your area in the past 10 years: were there any public debates, protests, accompanying such moves?



4. Policy framework to support adaptation to demographic change¹⁵

The chapter briefly summarises the policy framework of, and presents general guidelines for the planning of local and regional actions to adapt to demographic change on the basis of outcomes of the ADAPT2DC project.

4.1. Policy framework

Most of the policies related to demographic change are developed by the **member states** of the European Union; however **the EU has also formulated strategic aims** regarding its demographic development and its appropriate handling. As demographic change has a wide range of social and economic impacts, is implicitly included in various policy documents dealing with broad themes such as regional cohesion, and is especially expressed in five central strategic documents:

- **Lisbon Strategy (2000)**
- **Green Paper: Confronting demographic change. A new solidarity between the generations (2005)**
- **The Demographic Future of Europe - From Challenge to Opportunity (2006)**
- **Leipzig Charter on Sustainable European Cities (2007)**
- **Europe 2020 Strategy (2010)**
- **Budapest Communiqué on European urban areas facing demographic and climate challenges by the Directors General responsible for urban development (2011)**
- **Territorial Agenda of the European Union 2020 (2011)**

The Commission's **Renewed Social Agenda** also deals with the question of ageing. The Commission has launched a pilot **European Innovation Partnership (EIP)** on Active and Healthy Ageing. Year 2012 was proclaimed as the European Year for Active Ageing and Solidarity between Generations. The European Parliament issued a report on demographic change and its consequences for the future cohesion policy of the EU. Also, numerous documents on demographic changes were prepared by the European Economic and Social Committee, and the Committee of Regions is also active concerning demographic challenges.

Further international organisations, such as the WHO and OECD also developed guidelines regarding policies for ageing and shrinking population.

¹⁵ The present chapter summarises the findings of the ADAPT2DC project output, O3.3.5 'Position Paper', 05.2.8. 'Recommendations from the Best Practice Catalogue', 4.2.8 'Transnational Guidebook for Pilot Action Implementation'.



Key points of the aforementioned documents are presented in the analysis The Transnational Review of European and Regional Strategic Documents on Demographic Changes elaborated in the ADAPT2DC project.

Nevertheless, **regional and national contexts and frameworks need to be considered** while transferring good examples and experiences from one region to another. Transferability can only be reached if there is enough **knowledge about responsibilities and financing structures** in the different infrastructure and service areas in the respective countries. Demographic change usually emerges as an issue as a part of the wider background for policy documents; policies exclusively focused on demographic change are not common. The **relevant policy framework** is also **dependent on the regulations of the specific field** in the **given country**. Certain fields, such as transport, are mostly governed by national level policies – however, constitution of the state may still create differences e.g. in case of federal states – while in other fields, such as education, social services or housing, **regional and local policies** may also be relevant.

4.2. Guidelines for planning local and regional actions to adapt to demographic change

Below we present general guidelines for stakeholders planning actions to adapt to demographic change. Most of the guidelines presented aim to help local and regional policy makers; however, some are also valid and useful for national and international level policy making.

Acknowledging the reality of shrinkage

For decades, policy makers and other stakeholders were used to managing growth, the term ‘growth’ and ‘development’ were often treated as synonyms.¹⁶ Such an approach needs to be revised, and **political concepts adapted to the reality of shrinkage**, as ‘blind’ growth is no longer desirable – considering the overexploitation of natural resources, climate change, the ongoing financial crisis – nor the reality. ‘Planning for shrinkage’ is a very new issue, not necessarily easy to accept for stakeholders. So far, in most countries the issue of shrinkage has only appeared on the policy agenda when profound problems have already become virulent (from housing vacancies to social segregation). However, a more general re-thinking is necessary, with mainstreaming of “planning for shrinkage” into wider policy and planning agenda. One option is to change current growth-oriented strategies into qualitative decline-oriented ones.

Shrinkage may provide the opportunity to create a more liveable, less dense living environment and may lead to a new equilibrium on a lower spatial and population level.

Long-term thinking

When making and implementing policies for demographic change, **long term, strategic thinking is**

¹⁶ Rink, D et. al. (2010) Shrink Smart – The Governance of Shrinking in a European Context, Research Brief No. 1. http://www.ufz.de/export/data/400/39030_D9_Research_Brief_FINAL.pdf, November 2010



necessary, as the challenges posed by demographic change are complex, actions to tackle them may take effect only in a longer time span and involve a variety of actors. Focussing in election periods will not lead to effective responses. In addition, a mere reaction to crises will be more expensive than long-term planning.

Pilot action approach

A pilot action approach is considered as a complementary tool for traditional top-down policies. First, they enable policy makers to **identify solutions more soundly based on** local resources, the involvement of local stakeholders, adapted to the local context. Second, they are also feasible to **test policy innovations** before adapting them more widely. However, it is important to develop and maintain channels (protocols) through which experiences of pilot projects can effectively be incorporated into higher level policies. All pilot actions shall seek the most economically advantageous solutions for regions and cities under shrinking population conditions. The actions shall try to fit into the local context in accordance with legislation in force and trying to have influence on governance to open towards a new strategy. The aim of these actions might not be to amend the current laws considerably, just to improve existing policies or services.

Some factors may limit the transferability of actions, such as a lack of available institutional partners, investors and investments, the lack of critical mass of affected citizens (potential users of services and/or resources), lack of competences (ICT or specific knowledge for service provision). Frequent changes and uncertainty regarding the competences of public actors may also pose a problem.

Pilot actions refer to the local legal, financial, social circumstances and target a field of need. The place and level of the intervention should always be considered, thus could be viable for practical use.

Revising standards and regulations

Current legal standards and regulations often impede effective responses to demographic change, as many of them are tailored for cities with high population densities. Shrinking communities may lose the resources necessary to comply with standards and current regulations (e.g. to maintain the required minimum sizes of school classes). Therefore a **flexibilisation of standards and regulations** would give shrinking regions more room for innovations. Changes may include new standards, exceptions from existing standards and/or scale-differentiated standards.

Regulations regarding the provision of grants and subsidies to local authorities from higher levels of government need to be revised, since they are often determined (fully or partially) by population numbers.

Compromise between holistic thinking and reality

Shrinkage and ageing affects **several policy areas**, so a **holistic approach** considering all policy areas is probably the ideal solution.

Affected policy areas include, among others, financial policy, social policy, employment, education, health, family policy, housing, environment, transport, infrastructure management, civic participation, migration policy, gender equality, human rights, social cohesion, R+D as well as spatial planning and regional development.

However, to develop and implement actions referring to all relevant policy areas is **hardly manageable**. Therefore, it is recommended to **start with the identification of a limited set of prior issues and policy areas** (health care, social service, infrastructure management, transport etc.), considering the area's characteristics and the resources and mandates of stakeholders. After selecting them, however, attention has to be paid to the **interlinks** to other issues and areas (e.g. if the spatial arrangement effects social issues). The aim is to find a **compromise between the complexity of potential actions and realistic prioritising**.

Multi-level approach

Due to the complexity of challenges related to demographic change, it is necessary **to involve/consider several scales of actions**, going beyond the borders of the given area: from the single citizen through the regional public authorities up to the national government. Considering higher territorial levels (regional, national) is especially important for local actions as they will not be efficient, if they are not coordinated with the regional and national framework.

It is important that **priorities** set regarding demographic change are **supported horizontally across sectors and at all levels of public administration**, otherwise they might function counter-effectively.

Spatial cooperation and coordination

Effective responses to demographic change may exceed the given territorial level. Therefore especially in small peripheral and marginalised areas **co-operation and co-ordination of regions/settlements** does emerge as a necessity. It can also help to avoid unproductive competition e.g. the designation of new housing estates or commercial field at the expense of neighbouring communities or competing against each other for subsidies or grants when cooperation and co-ordinated action would lead to better results. Forms of cooperation shall be exploited in a cross-border context as well.

Multi-actor approach

To provide effective responses to demographic change **needs various kinds of resources**, from voluntary engagement of citizens through the innovative capacity of NGOs or the adaptation capacity of institutions up to the regulatory power of national authorities and financial sources of funding organisations. Therefore in order to design and implement actions to adapt to demographic change, **all potential actors should be involved/considered** in planning as well as the implementation of actions. The set of actors may greatly vary depending on the issue, including for example policy



makers, local institutions, service providers, NGOs, citizen groups, representatives of neighbouring communities and other territorial scales (e.g. national government) etc.

Participation

A **participatory approach** is an effective tool to design and implement local responses to demographic change. Such an approach:

- allows for the **utilisation of local knowledge** (e.g. on real-life unfulfilled needs) therefore the design of actions which are really relevant for the community;
- allows for the utilisation of **local resources** (including local stakeholders as technical contributors but potentially also as financial sponsors);
- helps to **sensitise the general public** regarding demographic change, e.g. helps to improve intergenerational solidarity;
- initiates a **motivating and learning process** with the local stakeholders;
- **strengthens commitment** of stakeholders to the aims and planned activities.

Potential stakeholders include for example:

- local municipalities;
- development agencies;
- service providers;
- civil and religious associations;
- institutions representing collective interests;
- groups of local citizens.

It is important that stakeholders are **involved from the very beginning of the planning process**. In case participation occurs only at later stage of planning, its benefits are compromised: local knowledge and resources may not be built into the project design, and exposure to already developed plans at a late stage of planning may create mistrust and lack of commitment.

In the implementation of actions, new types of co-operations between different actors may be useful, e.g. the transfer of part of the responsibility of public services and infrastructure to new types of public-private consortiums, or public-private-people partnerships (PPPPs).

For putting the concepts into practise it could be a good way to involve citizens as volunteers; re-utilising abandoned buildings; organising co-operative social care services with local/public



administration; creating integrated social care centres and integrating spaces for elderly and youth take part in common activities.

Consider regional/local particularities and differences

The feasibility and effectiveness of actions strongly depends on how well they are embedded in the national, regional and local context: how well did they identify problems, how relevant and acceptable the proposed solution is for the local community, does the solution proposed comply with the local regulations, did they manage to identify and involve relevant stakeholders, etc. Therefore planning of actions/the transfer of actions from one country/region to another should rely on a **place-based planning**, including in-depth, multi-folded and multi-level analysis of the local context, where:

- multi-folded means that apart from analysis on demographic trends, attention has to be paid also to the geographical (physical geography, settlement structure), social, economic, administrative, institutional, legal, historical, political, cultural features of the area;
- multi-level means considering the relationships of the area with others at various geographical scales (local, regional, national).

Long-term economic feasibility

When calculating economic feasibility of planned actions, the following should be taken into account:

- Due to the complexity of potential actions and the lack of 'quick solutions' of successful adaptation to demographic change **economic feasibility should be considered rather in long term** than short term.
- Actions may not result in direct cost-saving but in **avoiding greater or future costs** (e.g. investment in preventive health care measures reduces future therapy costs), **indirect savings or obtaining new incomes or non-monetary benefits** (e.g. better life conditions, prolonged activity, reduced ecological stress, policy participation etc.). An integrated calculation of profitability through considering all costs is encouraged.
- In case of services of general interest (e.g. water provision), **safeguarding the right of all citizens to access the needed services can be considered more important than cost efficiency**. It is often reflected in **legal provisions** making the provision of such services **compulsory**. Therefore it can be a legitimate – and more realistic – aim to develop a **reorganised system of services at the same cost level, financially feasible over long term**.
- **Adaptation itself may involve initial costs** which should not be rejected as such.
- It is difficult to make **medium/long term estimates on costs, benefits and other impacts**, nevertheless **they should be provided**.



Innovative finance

In order to solve a growing set of complex social problems and societal challenges with fewer funding, specific attention should be paid to innovative finance of services and infrastructure. Suggestions include:

- It is necessary to look for **new participatory models** addressed to public and private actors, as well as to the local civil society at large (the so-called public-private-people partnerships, PPPPs).
- Recourse to **innovative models of social finance** such as community investing.
- **Combination of different funding sources** (local, regional, national, EU, private investments) may be needed to cover the resource need of actions.
- Adequate resources have to be granted in **all the phases of the action**, from design through implementation, monitoring and assessment.

Paradigmatic change of EU regional development policy

So far, regional and municipal governments have implemented rather investment-oriented policies than cost-saving policies while using EU structural funds. It happens many times that elected regional and municipal governments build any type of new infrastructure in their regions without a sound justification and budget for their long term maintenance. From a short term perspective it is an additional input for municipal/regional budget which is usually positively perceived by the public.

In the programming for the 2014–20 period – triggered by new legislations and objectives of EU Cohesion Policy and guidelines issued by the Commission – it is stressed to take into account more carefully the verification of development needs and the long-term sustainability and benefits of projects (see for instance the requirements and recommendations on applying intervention logic and evidence based planning, enhancing energy saving and the role refundable subsidies instead of non-refundable grants).

Review questions

List and present five guidelines for the planning of actions to adapt to demographic change.

What can be the use of pilot actions for policy making?

What are the benefits of early participation, and the risks of delayed involvement of stakeholders?

Orienting questions:

Choose a topic from the ones discussed in Chapter 3. Plan an action in the chosen policy field, considering:

- *What are the main policy documents governing this field in your area? (Consider different territorial levels.)*



- *Who are the main stakeholders in the specific topic in your area? Consider different types of actors (public administration, civil organisations, service providers etc.)*
- *Draft a 'plan for planning'. Whom would you involve and in what form? What would be the main steps of the planning process? What would be the outputs of planning?*
- *Are there any options for actions in the chosen field which*
 - *directly save costs?*
 - *save costs through avoiding greater or future costs?*
 - *lead to indirect savings?*
 - *lead to new incomes?*
 - *lead to non-monetary benefits?*
- *Are there any regulations or standards which might need revising?*
- *Are there any other fields (policy areas) which have strong interlinks to the chosen field, therefore might need action? (E.g. spatial reorganisation of social services needs a consideration of transport opportunities.)*
- *What could be the main financial sources for such an action? (Consider innovative models of social finance too, such as, local co-operatives!)*
- *What could be the most telling performance indicators of the action?*



5. Challenges and local solutions of demographic change in service provision¹⁷

In this chapter local solutions to the adaptation of services and infrastructure to demographic change will be presented, based on the best practices analysed and pilot projects carried out in the framework of the ADAPT2DC project.

5.1. Issues to consider

Most of the analysed solutions concentrate on **adaptation to demographic change accepting it as the framework** of action, as a **more realistic** aim compared to changing demographic processes themselves, (such as, increasing fertility rates and attracting migrants). Generally speaking, ageing and shrinking are accompanied by the emerging of a quite standardised sample of needs, such the demand for new health and social services and infrastructures, new mobility and transport systems, new cultural and learning initiatives.

Local solutions to such changes are crucial to tackle consequences of demographic change, as many of the essential **services are provided at local and regional** levels. Small territorial systems such as regions and settlements have **large potentials** in adaptation processes. Feasible policy solutions are more likely to be found using a bottom up approach, developed at the local scale than a top-down approach, elaborated by the central government. Therefore the regional and local level is an appropriate arena for designing and implementing policy responses to such demographic processes. Local responses to demographic change will have a grave effect on the area's economic competitiveness, social cohesion and quality of life.

Voluntary engagement is often key to successful actions, since they involve additional resources and increase the community's engagement. Therefore **support for voluntary engagement** in the organisation and financing of infrastructures and services is useful. However, experts in the ADAPT2DC projects warned that too much dependency on voluntary engagement is a risk which does not allow long-term planning.

Policies are rarely brand new products; they are almost always the result of the mobilisation of existing policies. There are already **many good examples and projects existing** across Central and Eastern Europe. **Awareness raising about promising practices** can also support future actions. For example Thuringia Future Prize is being awarded every second year to initiatives and projects that are dealing in an innovative way with demographic change. Therefore it is **not necessary to invent totally new ideas; building on existing policies** applied in other areas may be useful. However, **solutions often cannot be 'copied' from one area to the other, "one-fits-all" solutions are usually not**

¹⁷ The present sub-chapter summarises the findings of the ADAPT2DC project output, O3.1.5 'Comparative Socio-Economic Background Analysis – Demographic Change in Central Europe', O3.3.5 'Position Paper', 4.1.2 'Regional Guidebook Methods to Adapt to or Counterbalance Shrinking', 4.2.8 'Transnational Guidebook for Pilot Action Implementation'.

feasible. Actions should always be adapted to the physical, geographic (physical geography, settlement structure), economic, social, administrative, legal and cultural (including habits and tacit routines) features of the given area. In the process of planning, **knowledge about the different responsibilities and modes of providing and financing infrastructures and services** is critical.

Cost saving was one of the key aims of the actions analysed; however practice proved that **measurement of cost saving is difficult**. Moreover, actions may not result in direct cost-saving, but in **avoiding greater or future costs, indirect savings or obtaining new incomes or non-monetary benefits** (e.g. better life conditions, prolonged activity, reduced ecological stress, policy participation etc.), while adaptation may involve **initial costs**. Moreover, **in certain cases** the **delivery to all citizens** of essential care, health, and mobility services and infrastructure **comes first** than the need for spending review. Thus **new investments can be also considered**, on the condition that they are oriented to **objectives of self-efficiency and long-term feasibility**. In the analysis of practices below – wherever possible – cost saving options are presented. For the planning of future actions to adapt to demographic change, **integrated calculations of profitability** through **considering all costs** is encouraged. In addition, independent evaluation of the action, including quantitative indicators wherever possible is important.

It is also important to bear in mind that although the improvement of infrastructure and service provision is an important issue for the quality of life of the local population, **it is not the main point for people when they decide where to live**. Above all stands the question of finding a job. If people cannot earn their living in a region they will hardly move/stay in a region even if this region offers attractive infrastructures and services. Therefore **provision of employment opportunities** is crucial.

Complexity versus realistic prioritising

Adaptation to demographic change, **ideally, requires a complex and vast programme of actions**. However, in reality actors have resource constraints: scarce financial resources, limited human and organisational resources and mandates. Therefore, **in reality, a selection of priorities** is necessary. When selecting priorities the following factors should be taken into account:

- What are the specific problems, needs and assets of the given area? The use of SWOT analysis¹⁸ is an important tool for such an assessment.
- What are the financial and human capacities and mandates of relevant actors?
- How are potential actions interlinked? Areas of such actions are often strongly interlinked, e.g. if social services are spatially reorganised, the issue of transport should be also addressed.

¹⁸ The consideration of a diversified mix of strengths and weaknesses, opportunities and threats that characterise the area in the relevant aspects of social life, such as, economy, education, health care, mobility etc.

The solution proposed is **to find a compromise between the complexity of potential actions and a realistic prioritising**. Often a selective and sectorial policy approach is not only a reasonable option but a necessity. Focussing on just a few problems and policy areas at a time is likely to be more realistic.

Further useful guidelines for the planning of actions are provided in Chapter 4 of this e-book.

Review questions

List some important factors to consider when transferring practices from one area to another.

Orienting questions

Please choose a theme from the ones below, and consider, who are the main stakeholders in your area when planning actions to adapt to demographic change in the respective theme? Consider actors from (a) local politics (b) local administration (c) NGOs and religious organisations (d) private actors such as utility providers (e) local citizen groups (f) strong informal leaders (g) institutions representing collective interests (h) actors from neighbouring communities (i) actors from other territorial levels.

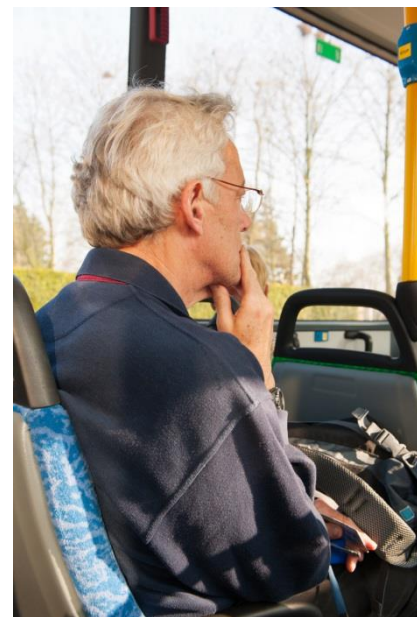
5.2. Hard infrastructure

5.2.1. Transport and mobility

Ageing has several implications for the transport system, such as:

- A **higher demand from the elderly for collective forms of transport**, especially in urban areas, due to a growing number of elderly citizens, who rely more on public transport compared to individual transport forms.
- Rising need for **accessible, convenient and affordable public transport and infrastructure** (such as barrier-free facilities, longer times at traffic lights for road crossing and limited walking distance to and from stops).
- Higher demand for commercial individual transport (such as taxis) and technology-assisted car driving.
- Changing targets and time schedules, destinations.
- Increased relevance of **safety issues**.
- Increasing need for the provision of **medical and special support services** at airports and railway stations.

Meanwhile, shrinking and demographic change-related segregation and marginalisation is likely to result in fewer clients, thus, economic difficulties for public transport providers. However, a functioning transport system is especially



important in shrinking regions where part of the needed infrastructure, health care and social services cannot be accessed on the spot; therefore a good connection to settlements providing such infrastructure and services is fundamental.

The **transferability** of the best practices in the field of transport and mobility is evaluated to be **comparably high** by experts in the ADAPT2DC project. However, it is important to note that many of the solutions proposed below are **not a real alternative but a complementary instrument** to improve transport opportunities, as **communities are mostly legally obliged to maintain** certain transport, in particular pupil transport. However, they are worth considering, as they can be vital tools to serve residents' mobility needs when public transport possibilities may be reduced. In addition, the development of transport opportunities is relevant both in terms of **adaptation** to demographic change, and means a possible instrument to **slow down/counterbalance** such trends: development of transport, the road and rail infrastructure to enhance regional accessibility and connectivity to economic centres is a key factor in affected areas' economic competitiveness.

The resource need and cost saving opportunities of different actions widely differs. The closure or deactivation of roads is likely to have only moderate influence on controlling excessive spending, while the reorganisation of public transport, the introduction of new, flexible forms of transport may be more realistic and offers a real cost saving option. Most proposed actions require an initial investment but offer an opportunity for longer term cost saving while maintaining local residents' mobility.

Existing practice suggests that successful adaptation techniques may be:

- Introduction of **demand-based** public transport provision.

Village Mobile in Klaus, Steyrling, Kniewas, Upper Austria

The village mobile was introduced in 2002 and since then runs flexible and demand-based. People who would like to use the bus have to call the driver half an hour in advance. The stops of the village mobile have been integrated into the public transport system, thus it provides a contact to the existing but insufficient public transport. Voluntary drivers drive the bus from Monday to Friday, from 6 a.m. to 7 p.m. Cost saving is given through the activation of voluntary engagement, the integration into the public transport system and inter-communal and -organisational cooperation. In the first year, when the village mobile was introduced the costs were around 25 000 €, in the following years the costs dropped to 15 000 €. The costs are being covered through member fees for the association, events, donations, the sold tickets and subsidies from the Federal State of Upper Austria. Additionally the introduction of the village mobile was integrated into the EU-Project ARTS and by that obtained 22 000 €. For the following years it was agreed that the Department of the Federal Government of Upper Austria will cover 50 % of the expenses.

More information: Verein Dorfmobil KSK, 4564 Klaus an der Pyhrnbahn 100, Tel.: + 43 (0) 7585 25513, info@gemeinde-klaus.at,

<http://www.gemeinde-klaus.at/gemeinde/DorfmobilWeb/Verein.htm>

- Merging **private and public** mobility forms, such as carpooling, spontaneous car passenger systems or making school buses available to other passengers.

CARLOS in Burgdorf, Switzerland

CARLOS is a spontaneous car passenger system without registration. At digital columns that are integrated into the stops of the public transport system people can enter their destination and purchase a ticket. The destination is visible for drivers who pass by. The driver who is willing to pick up the waiting passenger receives the ticket which can be exchanged at gas stations or the public transport agency. The driver receives half of the ticket price. For safety reasons CCTV of the columns and insurances for drivers and passengers were introduced. Cost reduction is achieved by integrating the commuter service into the public transport system.

More information: CARLOS GmbH, Martin Beutler, Muristrasse 79, CH-3006 Bern, Tel.: +41 (0) 31 333 45 17, martin.beutler@carlos.ch, <http://www.carlos.ch/index.html>, Steinrück, Barbara; Küpper, Patrick (2010): Mobilität in ländlichen Räumen unter besonderer Berücksichtigung bedarfsgerechter Bedienformen des ÖPNV, p. 55

- Combination of goods traffic and passenger services.
- Introduction/development of **barrier-free facilities**.
- Use of low capacity vehicles.
- Adaptation of routes and time tables for changing needs.
- **Avoiding redundant** transport stops, lines, turns.

Stop by Need, district Dahme-Spreewald, Brandenburg, Germany

In the area request stops were introduced. Here the passengers have to press a button in order to signal the bus driver that they wish to use the bus and the driver includes the stop in his route. Cost saving is realised by avoiding redundant transport. This also allows for an extension of the transport offer, which might lead to an increased income for the providers.

More information: Regionale Verkehrsgesellschaft Dahme-Spreewald mbH, Geschäftsleitung und Niederlassung Luckau, Nissanstraße 7, 15926 Luckau, Tel.: +49 (0) 3544 5001 0, info@rvs-lds.de, http://www.rvs-lds.de/rvs_service.html; http://www.rvs-lds.de/tl_files/RVS_Dokumente/Bedarfshaltestellen/anleitung-beha.pdf

- Attraction of **new clients** (e.g. tourists).
- Lowering standards and **more flexible rules/guidelines**, such as, allowing the activation of voluntary engagement of citizens (e.g. as voluntary drivers) in public transport.
- Attraction of public (both national and local) and private funding.
- **Flexible transportation solutions** to meet the residual demands (e.g. cycling, taxis).

KombiBus, in Saale-Orla-Kreis, Germany

“KombiBus” means the transportation of goods within the “normal” public passenger transport by bus. Thus it is a combination of goods transport with passenger transport. The backdrop is the declining income of the bus company, which is due to shrinking passenger numbers. The goal is that the declining income of the bus company shall be compensated through a parallel transport of goods (which generates additional income for the bus company), in order to make the public transport in rural areas more efficient and attractive and able to maintain the existing quality. Existing network structures would be used,



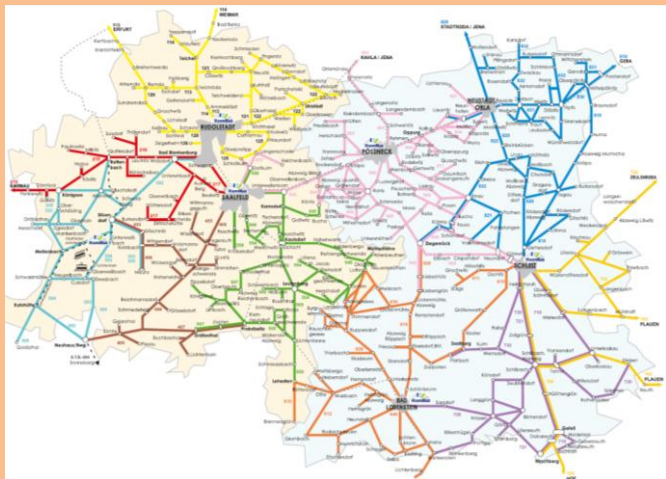
unecological and uneconomical parallel transport would be avoided. Moreover an attractive regional goods transport system would be available for regional companies, so that they don't need to maintain their own logistics system or book expensive professional parcel services.

The inspiration for this measure came from the head of the Kombus GmbH, which is the regional bus company in the Saale-Orla-district. The head of the Kombus GmbH had heard that a similar measure had been successfully implemented in the Uckermark in Brandenburg.

In terms of actions, two main steps were taken:

Firstly, a “legal” study evaluated if and under which conditions such a combined transport system can be implemented. The study answers questions such as: is it allowed (under Thuringian law) that a passenger bus transports also goods? Are any certificates or licences to be procured? What happens in case of damage of the goods/ what about liability insurance? Is the public subsidy (for the bus company) affected by this new system? For this, a lawyer was sub-contracted. The results of the study were overall positive: The lawyer did not see any legal hindrances to the implementation of the KombiBus system.

Secondly, an analysis of market potential was carried out. For this, the University of Applied Sciences was sub-contracted, in particular the institute for transport. The goal was to identify potential users of the KombiBus system. Within this process, several interviews were held with interested companies in the region. From the 180 companies that were initially asked, 22 showed a general interest in using this service, and 5 showed a specific interest in the sense that they would be willing to test the KombiBus system if a pilot bus line is installed. The idea is that more companies would use the new service as soon as it is up and running and as soon as the success is proven.



On the basis of these two studies, the bus company shall be able to make the decision whether the KombiBus is legally feasible and economically useful. It is expected that perhaps a “testing bus line” will be the starting point. Then an investment would have to be made (by the bus company) particularly into a disposition software, perhaps into the installation of shelves into the buses, the training of drivers, etc.

It becomes evident that the pilot action is mainly an initiation in this case. The main management



processes will be maintained by the Kombus GmbH. In the long run, the combined passenger-and-goods transport will run without extra help from any EU project, it will be self-sufficient.

In terms of impact, it is expected that this “new” service will generate extra income for the bus company, which is currently operating at a loss. Thereby, the sustainability of public transport is ensured, which also maintains the quality of life for the population. At the same time, local companies have a cheaper and quicker possibility to transport their goods to other points in the district, which again saves costs for them because professional parcel services are expensive.

Long-term economic costs for longer distances and higher expenditure of time can be saved. Resulting capacity from the declining number of passengers on the busses will also be well-used. At the same time, local companies can save because a professional parcel service is more expensive than transporting goods in the “KombiBus”. A specific indication of cost savings in € it is too early at this point. The “KombiBus” was launched as part of the Demography Coaching exercise carried out in Saale-Orla District, Germany, as a pilot action in the ADAPT2DC project.

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- Promotion of **further, flexible forms** of transport such as cycling.
- **Integrated transport planning**, e.g. transportation for specific needs (e.g. to access health and social services of elderly people) combined with existing public transport, flexible fare system.

Bürgerbus Seefeld, Germany

The “Bürgerbus Seefeld” has been active since 1998 and works to “fill the gaps” of the official timetable. In certain times, it functions as call-a-bus in order to enhance efficiency. The connection to the train station is a main focus of the busline.

New Public Transport Concept in Salzwedel, Saxony-Anhalt, Germany

The public transport system of the shrinking area was reformed, including a new, more effective network of routes including tourist routes, possibility for the free carriage of bikes, a flexible fare system. The latter made public transport more attractive for tourists, in addition, the company was involved in a project that transports children to their kindergarten. Cost saving can be realised through the creation of additional income. Between 2007 and 2011 the yearly passenger numbers increased from 2 800 to 80 000.

More information: PVGS Personenverkehrsgesellschaft, Altmarkkreis Salzwedel mbH & IGZ, 29410 Salzwedel, riehn@pvgs-salzwedel.de,

<http://www.menschenunderfolge.de/db/frontend.php/api/detail/id/1258>

- Making of access to public transport a compulsory criterion for planning social infrastructure.

Some of the above techniques create **new revenue sources** for public transport providers (such as, opening up school transport for other passengers, merging of people and goods transport).

Development and application of modern communication instruments is an important support for many of the above adaptation actions.

Orienting questions:

Are there any settlements/settlement quarters in your area, which have no access to public transport? (I.e. the first public transport stop is further than cca. 500 metres?)

Are you aware of any settlements/settlement quarters in your area where the schedule of public transport does not meet needs (e.g. lack of access to workplaces, services on time, lack of public transport during the evening)?

Are public transport facilities barrier free in your area? How did public transport fares change in your area in the past 5 years?

Who are the (main) public transport provider(s) in your area?

Were there any changes in the public transport system which affected the public transport offer in your area in the past 5 years (e.g. shutdown/opening of railway of bus lines, rearrangement of schedules)?

Are you aware of any new, innovative solutions to improve the mobility of local residents (e.g. car sharing, call buses, possibility for other passengers to enter school buses)?

5.2.2. Housing & public spaces

In housing and public spaces **shrinkage** of population leads to **vacancies**, which result in:

- a decrease in property value,
- security problems,

- a strong **negative image** of the area which again decreases the attractiveness, thus the value of properties in the vicinity.

Ageing changes needs regarding housing, but also poses **challenges to sustainable spatial development**, as it changes demands regarding the type and spatial location of services, institutions, and public spaces.¹⁹

Actions to deal with such a situation include:

- Reorientation from new construction to **refurbishment** of existing buildings to improve attractiveness and increase property value.
- **Adaptation of housing to the needs of residents**, to make elderly citizens to be able to live in a familiar environment for as long as possible.
- **Adapting to the needs of young families, single parents, etc.**
- **Vacancy management**, in order to find the most effective management solutions of existing, abandoned buildings, which might include:
 - **function change** in order to adapt functions to the needs of the community;
 - **downsizing** buildings to save costs (on longer term) and adapt functions to the community's needs;
- **Demolition** of buildings (unused residential, commercial or industrial objects) to save costs, and prevent a (further) decrease in property value, security and image problems. In areas subject to demolition **new green areas** may be created that increase the quality of the residential environment. (However, this solution requires a large amount of public funding, which should be at least partly covered by special financial schemes like taxes on the increase of the property values.)

Cost effective innovative solutions on public property maintenance, energy savings by optimisation of public buildings. Vejprtsko, Ústí Region, the Czech Republic



The pilot action of the Ústí region is to propose a governance model for the municipalities in the area for **reducing maintenance costs of public buildings**. The spending on public buildings can be quite a burden for the municipal budget, one of the main factors are heating costs. But also a more efficient usage of

buildings can reduce spending. Vejprty is a mountainous rural area near the border, characterized by small settlements with a predominantly elderly population. The mountain and peripheral features of this area have hindered the development of a local system of both economic



¹⁹ For more details on this issue, see the findings of the project 'HELPS' – Housing and Social Care for the Elderly in Central Europe: WP3 Main Findings Report <http://www.helps-project.eu/project/outputs>



activities and services. The area has about 3000 inhabitants and many abandoned unused or partially used buildings after the war and after the fall of communism. The operating costs of these buildings are a burden on the community. These empty and decaying buildings include a former hospital, nursery school, administrative centre as well as factories and housing. The pilot action refers basically to property in municipal ownership. The aim of the project is to identify buildings most costly to maintain, and develop ideas on lowering costs and finding new usage. In the initial stage of the project energy audits were made for the 3 most costly but variously used buildings and studies conducted on the needs of the municipality and local residents so as to identify relevant new

functions for affected buildings (such as, business centre, health care centre and social housing). A general savings optimization was proposed and the material prepared summarizing various options of energy measures from basic insulation to the implementation of so called “smart” buildings. The last step in turn is the possibility of funding energy measures from external sources, as the municipalities do usually not have enough of their own funds. At length cost reduction will be reached through energy savings and meaningful use the object, therefore decreased maintenance costs. The proposed governance model is a set of steps towards the efficiency of public buildings and thereby public funds. The money that is not spent can be used for investment in other community activities.

Schematically, the governance model consists of the following steps:

1. Analysis of strategic documents
2. Economic evaluation - analysis of the costs of operation and maintenance of objects in relation to the budget
3. The proposal to improve the current situation in relation to energy saving measures
4. Energy audits and certificates of selected public buildings
5. Study of the use of objects and draft timetable for the implementation of the proposed activities

The ‘Cost effective innovative solutions on public property maintenance, energy savings by optimisation of public buildings’ was launched in Vejprtsko, Ústí Region, Czech Republic, as a pilot action in the ADAPT2DC project.

Further information:

http://www.kr-ustecky.cz/vismo/dokumenty2.asp?id_org=450018&id=1679703&p1=190768

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The hamlet of Bussana Vecchia, Italy

The hamlet of Bussana Vecchia, in Province of Imperia, is a good example to take, to understand potentialities and errors that can occur in such an idea. Completely abandoned from the end of the XIX century, it began to be populated again starting from the 50s, when Italian and foreign artists gradually came to live there in the abandoned houses. In few years the hamlet gained a popularity, stemming from the possibility offered by a place that was open to all opportunities of use, in this case in ecological and artistic field.

Starting from the 80s, until nowadays, there have been many disputes regarding the property of the houses. This shows that, without a public control or initiative, projects such this can face difficulties hard to be solved. On the other hand, a public steering of the process could bring to a similar result in a more smooth way, thus bringing direct benefits to the municipalities and the communities living in peripheral areas.

Innovative tools to manage the overdimensioned public infrastructure (Maribor)



This pilot action deals with saving municipality costs for maintaining public buildings and roads. The main approach of the pilot action is to use several cost reduction tools on the same pilot area - city center of Maribor - in order to strengthen synergy, comprehension, sustainability of the cost reduction on short and long time span, and also to encourage significant economic, cultural, social, environmental and other impacts.

The pilot action began with geographical mapping and analysis of publicly owned infrastructure (public housing, roads) in Maribor in order to identify potentials for reduction of the maintenance costs. Intensification (by the

development of the attic of buildings) and possible changes of the use of the public houses are employed as main instruments for reduction of the maintenance costs per square meter. In the case of roads the introduction of by-street parking and reducing street lighting costs are examined. The tool is innovative by way of using up to date GIS tools. The developed algorithm is implemented as spreadsheet analysis program. The spreadsheets enable users to easily change the input parameters and easily re-use this tool for unlimited situations. The methodology also included measures to show that costs can be saved in public housing maintenance, street lighting and in providing parking regimes in the centre of the city.

When this tool is applied, the results are quite specific. For Maribor as a model the following anticipated cost savings were calculated: About 14 per cent average savings per square meter in the case of developing the attic of buildings; about 28 per cent reduction in maintenance costs for the street in the case when by-street parking is introduced; about 68 per cent drop in electricity consumption of street lighting in the case when the lamps are replaced by LEDs.





The 'innovative tools to manage the overdimensioned public infrastructure' was launched in Maribor, Slovenia as a pilot action in the ADAPT2DC project.

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Land use management in Litzendorf, Germany

Litzendorf (in Oberfranken) established an active land use management: The municipality calculated the population growth in the coming decade and came to the conclusion that the existing vacancies and brownfields in the town are more than enough to meet the needs of incoming population. The development plan of Litzendorf reflects this and is under the headline "densification". The "register of building gaps" allows the direct marketing of the vacancies to potential buyers and since 2007 already 20 parcels of land have been sold.

Reduction of Public Dwelling Stock, in Germany

Within the framework of the ExWoSt research field "Stadtumbau West", a programme initiated by the German Federal Government that promotes studies, research and pilot projects in the area of urban restructuring, several strategies were tested and applied in seven pilot regions (Albstadt/Baden-Wuerttemberg, Bremen-Osterholz-Tenever/Free Hanseatic City of Bremen, Lübeck-Buntekuh/Free Hanseatic City of Lübeck, Oer-Erkenschwick/North Rhine-Westphalia, Salzgitter/Lower Saxony, Selb/Bavaria, Wildflecken/Bavaria) that shall help to reach the main objective of this project: reducing the public dwelling stock and adapting the public infrastructure to demographic and economic developments. One strategy was the demolition of not needed public dwellings, accompanied by image strategies for the involved city districts in order to retain and/or attract new inhabitants. The new, free spaces were used for the creation of green areas. Remaining houses were sanitised energetically and optically through new, glazed lifts in order to make the city quarters more attractive for remaining and new inhabitants. The project requires significant investment, concrete costs for the reduction depend on the used method, reducing whole blocks is less expensive than their partly reduction. The projects were financed by the programme "Stadtumbau West".

More information: ExWoSt-Forschungsfeld Stadtumbau West

http://www.stadtumbauwest.de/exwost/inhalte/Guter_Ansatz_Rueckbaumanagement.pdf

http://www.bbsr.bund.de/BBSR/DE/FP/ExWoSt/exwost_node.html



Vacancy cadastre Remptendorf/Saale-Orla District, Germany



As a basis for future infrastructure decisions a vacancy cadastre is carried out in the municipality of Remptendorf in the southern area of Saale-Orla-District. The idea is to link residents' registration data and cadastral data in a geographic information system (GIS) and to display it graphically. This will enable

the mayor/the local government to focus on the vacancies when advertising property in their town; in the long run it will ameliorate the condition of building stock.

With the help of the vacancy cadastre, vacancies and vacant lots can be displayed. So users are able to draw conclusions from developments in recent years and to determine objectives and actions for the future. As a result even anticipated vacancies should be displayed (i.e. houses which are currently occupied but which may become vacant in the coming years, for instance due to old age of inhabitants). In this way, the local actors/politicians can focus their activities on the development of the town centre and avoid the costly development of suburbs (each new suburb needs to be connected to infrastructure networks, which costs money). Two additional advantages are reached by the focus on town-centre-development: firstly the quality of the building stock is maintained in the centres (as opposed to decaying vacant buildings) which maintains the value of surrounding buildings, and secondly people living in the centres save money on commuting (which people in suburbs usually face).

Specifically, a (previously identified) software is used to “combine” the cadastre data with the registry data and thereby a visualization of the current vacancies of the town Remptendorf is possible. This is the task of the Demography Coaching – afterwards, the task of the mayor (or the local administration) begins, namely to concentrate on the vacancies in their marketing activities or in their development activities or planning activities (so that the town centre is maintained in a good quality and enough tenants are kept in the town centre / at the same time, the necessity for developing “new” suburbs is removed, because now interested buyers/investors/families can find out precisely which vacant buildings are available in the town centre). This is the so-called “town centre development”.

The ‘Vacancy cadastre’ was launched in Remptendorf/Saale-Orla District, Germany, as a pilot action in the ADAPT2DC project.

Further information:

http://www.vhw.de/fileadmin/user_upload/Forum_Wohneigentum/PDF_Dokumente/2014/1_2014/FWS_1_14_Ruge.pdf

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- **Expansion of the residential rental market.** It is an important tool to make the local housing market **more flexible**, being able to adapt to demographic change but it can also support measures to counterbalance it: good quality and affordable housing supply effectively supplements measures to vitalise the local economy, to attract new residents in the area.
- **Improvement of energy efficiency**, thus decreasing housing costs, improving living conditions and acting against climate change.
- **Development of facilities for community-based care** to promote a shift from institutional care of elderly and other vulnerable population groups (such as, people with disabilities).
- **Change in the approach of spatial planning.** In the past decades, spatial planning was focusing mainly in managing growth. However, demographic change needs a change in such an approach: instead of the current growth-oriented strategies **decline-oriented** ones may be more relevant. In shrinking areas, developments should be turned to **brownfield areas** instead of greenfields. Instead of suburbanisation, **development should be focussed on the establishment of a compact settlement structure**. Main features of a compact settlement structure are:
 - a variety of functions,
 - harmonious spatial mix of functions, no excessive distance between workplaces, housing, commercial and recreational areas,
 - relative density,
 - clear boundaries, lack of urban sprawl.

In ageing societies more attention should be paid to the **specific needs of elderly population and people with disabilities and with restricted mobility when shaping the land use structure** of settlements. In order to prevent shrinking, **child- and family friendly settlements** need to be developed in addition to economic measures creating employments.

Revitalisation of the City Centre, Güstrow/Mecklenburg-Western Pomerania, Germany

In the project, an abandoned area was purchased to construct a quarter for the elderly there. The new centre contains apartments, a community building and service facilities. Short distances between the social facilities lead to a higher mobility of the elderly and by that support an autonomous lifestyle. Cost saving is realised through prolonging an autonomous and active life style for the elderly, in addition, move of elderly people to the area opens up opportunities for not needed infrastructure to be demolished and social services bundled.

The project offers cost savings opportunities, as the revitalised city centre motivates especially the elderly to move into the area, so infrastructure not needed anymore in other areas can be demolished and social services bundled. Additionally the elderly are supported by leading an autonomous and active lifestyle which helps them to stay longer independent and healthy. All these points help to save public spending on the long term.

Further information: <http://www.stadtumbau-ost.info/>;

http://www.baumodelle-bmfsfj.de/Baumodelle/33_Guestrow/33_Guestrow_F.html

Spatial planning is also a key to the adaptation to demographic change **in rural areas**, where shrinking and ageing makes the reorganisation of infrastructure and service provision unavoidable, as such actions may include a **spatial rearrangement of infrastructure and services**.

Spatial rearrangement of infrastructure and services may include:

- **spatial concentration** of functions and ensuring access of all citizens to the central place where functions are located,
- **spatial distribution** of functions, with a strong **co-operation between communities** to ensure access to services and infrastructure to all citizens.

Decision regarding spatial concentration or distribution should be based in the given area's characteristics, especially in terms of settlement structure, physical geography and transport connections.

Policies aiming to decrease regional differences may play a role in demographic restoration, or at least in slowing down shrinking and ageing.

Integrated and efficient planning of infrastructure in rural areas, Lommatzsch and surrounding communes/Saxony, Germany

The aim of the project was to restructure existing infrastructure through inter-communal cooperation. For that purpose extended analysis of the potentials of the communes was carried out. The analysis focussed on the central social and technical infrastructure, the public transport system and retail. Also the communal finance situation was analysed, then the demographic change and its consequences for the infrastructure provision was analysed. Afterwards, the mayors of the area were involved formulating aims concerning the future development of social and technical infrastructure, on the basis of which the project team developed concepts securing an efficient and qualitative provision with infrastructure under demographic change. Realised concepts included: organisation of semi-central facilities for water supply and sewage water treatment; establishment of subsidiary medical practices in the surrounding communes that work together with a central practice in the main town. New concepts introduced offer the possibility of cost savings in the longer run. The project was part of "MORO - Modellvorhaben der Raumordnung", a programme of the Federal Ministry of Transport, Building and Urban Development (BMVBS) for testing and realising innovative spatial planning approaches together with stakeholders from practice and the sciences.

More information:

<http://www.bbsr.bund.de/BBSR/DE/FP/MORO/Forschungsfelder/2004undFrueher/InnovativeProjekt/eRegionalentwicklung/Modellvorhaben/InfrastrukturUndDemographischerWandel/IntegrierteInfrastrukturLommatzsch/IntegrierteInfrastrukturLommatzsch.html>



Orienting questions:

What is the ratio of public housing in your area? What is the ratio of owner occupied housing?

Who is responsible for the public housing stock in your area?

In case there is vacant public property in your area: Who is responsible for the management of vacant public property in your area? How does it manage vacancy?

Are there any examples in your area for:

- *function change – what happened?*
- *downsizing buildings (either partial demolition or closure of parts of the building and/or function change of other parts of the building)*
- *demolition of buildings – what happened to the area managed after the demolition?*

Were any programmes carried out to improve energy efficiency? What kind of buildings were involved?

Is there urban sprawl in your area?

In urban areas:

Were any actions taken in the past 5-10 years that aimed to develop a more compact urban structure in your area? If yes, list a few such actions!

Were there any actions that aimed to create a more elderly friendly built environment in your area?

What were these actions?

Were there any actions that aimed to create a more family- and child friendly built environment in your area? What were these actions?

In rural areas:

Were there any actions that aimed a spatial rearrangement of functions as a response to demographic change in your area? What kind of actions were taken?

5.2.3. Water/sewage treatment

Adaptation of such network infrastructure to the effects of demographic change is challenging, as the **resource demand for the modification of technical infrastructure is usually high**. However, due to the increasing per capita costs and potential technical problems (e.g. in case of loss of clients of water provision systems) such adaptation may be necessary in order to ensure the long-term operability of systems.

Demographic change leads to the **decrease in the need** for water provision and sewage treatment which renders formerly designed **systems financially difficult to maintain**. In order to cope with arising problems the following methods are recommended:

- **Reduced, refitted, re-organised** facilities and **infrastructure** (including cutting back of infrastructure if relevant).
- Development of **decentralised or semi-centralised systems**, as centralised systems may have much higher fix costs and cannot be adapted rapidly to changing population numbers. Especially in dispersedly built areas not every house needs to be connected to

a central sewage plant, if there is an effective local solution for waste water management.

- In certain cases, **centralisation** seems a good solution, e.g. construction of a big sewage water treatment plant taking over sewage water of the neighbouring communes, which costs split between involved communes.
- **Cooperation** in management and service provision **between providers and decentralised networks**. This unifies dispersed markets into larger ones, which is an important step to mitigate the financial burden caused by oversized infrastructure, and helps to reduce costs.
- Creation of **new income sources**: linkage of energy generation and sewage water treatment creates revenue sources for providers.
- Introduction of flexible technical solutions.

Efficient purification plants, Bad Ems/Rhineland-Palatine, Germany

The project aims a higher efficiency of purification plants by exchanging pumps, optimising the sewage sludge digestion, shutting down the agitator during ventilation and building a micro gas turbine for the usage of sewage gas. Cost savings could be realised through a more efficient energy supply and the creation of additional income for the purification plant by using sewage gas for additional gas production.

More information: Verbandsgemeindeverwaltung Bad Ems, Bürgermeister Josef Oster, Bleichstraße 1, 56130 Bad Ems, Tel.: (02603) 793 0, vg@bad-ems.de, <http://www.bad-ems.de>, Bundesumweltamt (2010) (Ed.): Demografischer Wandel als Herausforderung für die Sicherung und Entwicklung einer kosten- und ressourceneffizienten Abwasserinfrastruktur, Dessau-Roßlau, p. 128-129.

EuWAK – Natural gas and hydrogen produced in purification plants, Bottrop, North-Rhine-Westphalia, Germany

In the project, the fermentation gas is being used to produce natural gas and hydrogen. The former covers the whole heat- and electricity demand of the purification plant. Parts of the fermentation gas are converted into natural gas, supplying the vehicle fleet of the plant. The rest of the natural gas is being converted into hydrogen and forwarded to a neighbouring school and a swimming pool, to produce electricity and heat. Cost saving can be realised through the usage of fermentation gas for the production of electricity and heat for the purification plant, gas stations and neighbouring infrastructures such as schools and living complexes.

More information: EmscherGenossenschaft Lippeverband, Kronprinzenstraße 24, 45128 Essen, Tel: + 49 (0) 2 01 104 0, <http://www.eglv.de/>,

<http://www.eglv.de/emschergenossenschaft/ueber-uns/kooperationen-und-projekte/euwak.html>



- Introduction of **efficient management**, e.g. autonomous planning, announcement and construction management of building activities.
- Development of a more efficient energy supply.

Review questions:

What are the main effects of ageing on transport needs?

What are the main effects of shrinking on transport needs?

List a few adaptation techniques that can improve the mobility of residents in areas subject to demographic change!

List a few techniques that can be used to adapt water/sewage treatment facilities to demographic change!



Orienting questions:

How many percent of housing is connected to the sewage network in your area?

How did the price of water and sewage treatment change in your area in the past 5 years? How did it change compared to the national average (if such data are available)?

Are you aware of any new, innovative solutions to adapt water/sewage treatment facilities to demographic change in your area?

5.3. Social infrastructure

5.3.1. Health care and long-term care

Although the number of inhabitants is likely to further decrease in the coming years in most regions in CEE, the **demand of health care and long-term care will increase due to higher life expectancy.**



These challenges include:

- **Increasing public health expenditure** for health and longterm care as a consequence of the increased number of people requiring such care. Cost of service delivery in health care is expected to also increase due to standards imposed by the national health care funding system in all countries.
- **Decreasing number of 'active' individuals.** Decrease in the number of people actually active in the labour market decreases tax revenues, and impede economic growth, which poses major problems for public finances. There are several policies on the national levels aiming to improve the ratio of active earners. Reforms of the pension system, and especially retirement age, and pushing back various forms of early retirement as well as channel back people who are able to work but are presently inactive into the labour market are actual issues in the CE countries.
- **Increasing demand for quality services,** since health and care are Services of General Interest (public good) that is obligatory to provide by law and have to be delivered and secured by the authorities.
- **Lack of country doctors.** The **provision with health care** is particularly problematic in **declining regions** because doctors have to take care of more and more people living on a great territory, and the communes dispose over less and less money to secure health care. This situation makes it rather unattractive for young doctors to settle, especially in rural areas.
- **Lack of care staff (nurses)** in care homes

Main challenges relating to health care and long-term care are not only determined by demographic changes and the financial implications for public expenditure, but also by the often **poor financial situation of elderly people.** For instance even if the health care service itself is free of charge for them, transport to the doctor or payment for the medicines might cause financial difficulties for them.

Recommendations:

- Supporting health prevention and personal responsibility.
- Supporting **home care services** to reduce public costs, and help the people to live and function independently as long as possible in their familiar surrounding (e.g. with the help of AAL Systems - Ambient Assisted Living Systems).

Adaptation of housing to promote independent life/Arzberg, Oberfranken, Germany

In Arzberg, a model apartment was equipped with ambient assisted living systems (AAL-systems) in order to enable handicapped and elderly people to stay in their homes for a longer time. These systems cover a wide range of application possibilities. In Arzberg, focus is upon the fields of health, security and comfort and control systems, a few examples are mentioned below.

- Health systems are aimed at measuring and analyzing health data such as blood pressure, pulse, weight. If values change for the worse, the technical systems sends a warning via Email, e.g. to the doctor or relatives. In doing so, inhabitants are able to keep a health diary.
- Systems of security and comfort include, among others, sensors to control opening and closures of windows and doors, smoke detectors and emergency lamps. In case of an emergency, the system gives the alarm and automatically sends the alarm to a predefined recipient.
- Control systems include heating operation by remote control, opening and closing doors as well as switching appliances on and off.

A small town like Arzberg benefits if the elder population keeps living in the town as the social environment of the population is kept up and further outmigration is avoided. In the long run, the AAL systems shall enable elderly people to live in their own flats for longer, so that the point when someone needs to move to an (expensive) care home is at least postponed for some months.

The “model apartment” shall be opened in regular intervals so that the interested public can have a look at the possibilities of how to adapt their own homes with relatively cheap means. The installed systems are relatively affordable to install, so that people can draw inspiration for their own homes. The more people decide to apply the suggestions (from the model flat) in their own homes, the better.

The ‘Adaptation of housing to promote independent life’ was launched in Arzberg, Oberfranken, Germany, as a pilot action in the ADAPT2DC project.

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Thüringen Stipendium, Germany

So far, about 100 young doctors have benefited from the scholarship “Thüringen Stipendium”. A number of graduates have already established their own medical practice in Thuringia, according to the foundation. In addition, the foundation is planning a programme in which it will buy its own practices and enable young doctors to work as employees for the first years of their career in order to allow them to get used to the work before having the responsibility for their own practice.

- Introduction of **ICT technology** into homes (Smart Homes, Telecare, Telemedicine) as part of care for the elderly. The services comprise ICT that include alarms, internet and telephone-based systems that monitor the well-being of older people. It can help in reducing the risk of accidents and increasing the safety, independence, and quality of life of the elderly. Using ICT in health care focuses either on information provision or risk management (avoids travel costs and times).



TellLappi - Securing health care in remote areas, increasing and utilising new technologies

This project, which lasted from 2001 to 2007, was implemented by the Lapland Hospital District in Finland. Additionally all 15 municipal health centres of the region were involved. In the course of the project several measures were introduced such as video conferencing, electronic referral system and the long-term storage of images. For the video conferencing all health centres and some special fields of the hospital district were equipped with PC, web camera and microphone. Training lessons were organised for the staff. The video conferencing was introduced especially for consultation services. If the patients need a consultation with a specialised physician in the hospital, they go to the next health centre and are being connected with the doctor via videoconference. For the long-term storage of images the project invested into the digitalisation of x-ray images. Within the project, also the data protection and security solutions of the involved municipalities were improved for a safe storage of patient information. Through the implementation of the aforementioned instruments a compatible infrastructure was built and cost savings could be realised.

The total costs for the project were 2 210 591 €. These costs were covered by EU- and national funds (ERDF and national share were 1 232 074 €) and the involved municipalities (978 517 €). The highest expenditures were caused by the investments into the hardware and the software programmes. Especially the introduction of video conferences among the doctors and patients revealed cost saving options. Because travelling is expensive in Lapland due to large distances, around 400 € per appointment can be saved. The digital storage of x-ray images revealed savings due to less storage costs.

Further information: Liimatta, Sirpa; Paananen, Tellervo (2007): TEL LAPPI III. From technological initialization to the development of services, <http://www.lshp.fi>

Telemedical services for senior citizens as a tool for optimising healthcare costs in Malopolska, Poland



The pilot action carried out in the north-western Małopolska (Miechów, Chrzanów, Olkusz and Proszowice counties) was targeted at a group of senior beneficiaries who were selected on the basis of health condition and place of residence. The aim of the action was to provide a tele-medical service (tele-ECG) to examine the beneficiaries' health condition, improve their life quality, and prevent further deterioration of health. The patients received tele-medical equipment to measure ECG at home, and were provided medical assistance, consultation, and diagnosis both on a remote basis and in person. The action consisted of tele-ECK service provided to a group of 100 patients over 55 years of age. Tele-ECG kits were lent to the patients free of charge, for a period of 1 month. Every patient was instructed on how to operate the kit at home, office etc. In addition, the patients completed a life-quality survey. Subsequently, they were asked to perform at least 3 registrations a day and advised to record as many ECG events as needed. Moreover, patients were offered consultations by a dietician at the beginning and at the end of the examination period. After the examination period each patient received diagnosis, conclusions and recommendations made by the assigned physician in charge and dietician.



The goals were:

- Better access to health care in depopulating areas
- Decreasing costs of high quality health care
- by using the advantages of the new technologies (direct costs)
- by early diagnosis and preventing further deterioration of health (alternative costs)
- High quality medical service for elderly patients
- Reaching patients at risk of exclusion

Given the fact that almost all (97) participants completed the examination, it may be stated that there were no serious difficulties that could prevent or put off some people from participation.



Overall, the Małopolska pilot action has succeeded as a pioneering effort to bring technology closer to the aging society and overcome difficulties related to increasing health care costs in areas facing demographic changes.

Further information:

Korneliusz Fil, M.D., Michał Haranczyk, M.D., John Paul II Hospital in Cracow, Poland
(Contact: Boryczko, Alicja, e-mail: Alicja.Boryczko@umwm.pl,
tel.: +48 12 29 90 900)

- Use not needed infrastructure for mobile/local practices and combines it with other offers (health and social centre).

Centre of Culture and Leisure for Senior Citizens in Nowa Huta, Poland

With the re-usage of an abandoned school canteen, Centre of Culture and Leisure for Senior Citizens provides professional help for the elderly, disabled and low-income citizens in the form of day-care, individual and group therapy (occupational therapy, music therapy, art workshop, memory training) rehabilitation for senior citizens and cultural offers. The Centre is located in Nowa Huta, a district of Krakow, where 27 per cent of the inhabitants are older than 60 years. The building where the Centre is located is a former school canteen. In the 1960s and 1970s the canteen was providing daily meals for 1500 students. When the number of students using the canteen decreased the city decided to refurbish the building and create a day-care centre for senior citizens. The Centre is regularly attended by more than 250 senior and disabled people. The canteen offers meals for up to 280 people. When needed, the canteen provides catering for other Homes of Social Assistance in Krakow. The event hall can accommodate 250 people. The building is used in an efficient way and performs an important function for the local community.

Further information: Antoni Wiatr, sekretariat@mddps.internetdsl.pl, Tel.: + 48 12 4256465

<http://www.mddps.krakow.pl/>

- **Better coordination of the existing health care system** (with new technological solutions)
Cost saving is based on limiting direct travelling to patients and using the technology instead of an on-site practice.

Mobile Dentist

The mobile dentist offers its service once a week additionally to the normal opening hours of its dental practice. For the realisation of this service a specially equipped car had to be installed. The costs for the installation of the mobile dentist car were funded by the Federal State of Brandenburg (4.443 €) and by ELER, the European Agricultural Fund for the Development of Rural Regions (17.773 €). Although the service creates costs in the first place due to the conversion of a normal car into a mobile dentist practice, the service of the mobile dentist helps to avoid costs in a long term for extended treatments due to preventive checkups.

Further information: [competition BMVBS 2011 "People and Success"](#)

<http://www.menschenunterfolge.de/beitrag.html?frame=../db/frontend.php/api/detail/id/751>

<http://www.eler.brandenburg.de/sixcms/detail.php/492304>

- Building **strong cooperation** between regional **health care** and **transport providers** (provide health care in the closest agglomeration and connect the region to it).
- **Incentives for young doctors** "learning by doing" via **mentoring system**. The organisation of mentoring practices (e.g. by more experienced doctors to their younger colleagues) is important, as it can facilitate the process of integration and support of the staff in the field of health care.

Family Doctor Academy - Attracting young doctors to work in rural areas as family doctors

In the district of Hersfeld-Rothenburg, Germany an Academy for family doctors was established by the clinics, practices and the Hessian association of family doctors. The concept involves a mentoring programme for students of medicine and young family doctors. The students are in close contact with their mentors, already established family doctors in the regions. They give advices concerning special advanced training courses and the leading of a practice for family doctors.

Costs can be saved on a long term through the avoiding of additional costs for travel of doctors and patients by attracting young doctors to work in rural areas.

Further information: Service Agency for Demographic Change

<http://serviceagentur-demografie.de/ideenboerse/projekt/hausarztakademie-hersfeld-rotheburg.html>



Want to know more? Useful links, further projects in this topic:

DC NOISE Demographic Change: New Opportunities in Shrinking Europe

<http://www.northsearegion.eu/ivb/projects/details/&tid=78>

Q-AGEING Quality ageing in an urban environment <http://www.q-ageing.eu/>

HELPS - Housing and home care for the elderly and vulnerable people <http://www.helps-project.eu/>

Orienting questions

How provision of health care is managed in your area? Who are the main stakeholders in the field of long-term care?

How is the provision of health care financed in your area? How public health expenditure changed in the last 5-10 years in your area?

Were there any shutdowns or reorganisations of institutions providing health care and long term care in your area? If yes, what was the result of such actions in terms of the finance and quality of the given services?

Is there public debate on improving the quality of (public) health care in your area?

Are there any settlements/settlement quarters in your area, which have problems with staff provision in health care?

Are you aware of any new, innovative solutions to improve the health care and long term care of residents (e.g. ICT technologies, Telemedicine, mobile practices, etc)?

5.3.2. Childcare and other social services

Social services is often one of the **first sectors** that **suffer from the consequences of demographic change** since the decrease of inhabitants leads to fewer incomes for the communes. Additionally, the provision of social services is sometimes **not perceived as absolutely necessary** in comparison to health care or water provision. Often communes see only one way to cope with demographic change - cutting of expenditures through omitting voluntary offers in the area of social service, decreasing communal investment and cutting of jobs in administration.



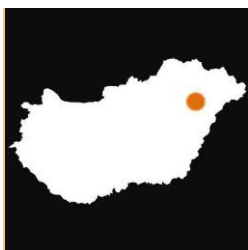
In fact provision of **adequate social services** – especially **child care services** – in order to assist women returning to the labour market may be an important factor **to mitigate negative demographic trends**. Female labour market participation improves the activity rate, thus meliorate the support burden of the active age groups.



Recommendations:

- Cooperation between public and private stakeholders for the bundling of resources.
- Realisation of **multifunctional facilities** and a **flexible organisation** within public facilities.
- **Spatial bundling of services in multifunctional centers.** However, spatial concentration only improves/maintains the delivery of social services if the improvement of the physical accessibility of multifunctional centers takes place at the same time.
- Introduction of **new forms of child nursing services** or at least a **flexibilisation** of operation times of childcare institutions. It is more and more necessary due to the stronger flexibilisation of working hours and working models.

Promoting the return of women to the labour market by launching integral nursing services for children in Észak Alföld, Hungary



The Hungarian pilot action is aiming to promote the return of women to the labour market by launching integral nursing services for children. The direct goal of the project is to rationalise the child nursing services and to launch daycare services that act upon unique necessities. The main result of the pilot action is a feasibility study that is elaborated for three settlements (Jánoshida, Jászfényszaru, Jászárokszállás) of the pilot region considering the legal and local environment. The study is focusing on the professional establishment of management issues of daycare services and offers 3 operational models for child day care nurseries by taking the local characteristics into consideration.

The basis of the feasibility study is a broad data collection and situation analysis. Interviews with local stakeholders completed the data collection. The feasibility study provides a detailed SWOT analysis. The feasibility study also includes an examination of establishment of an integrated nursing centre and an examination on the establishment of daycare nurseries that would operate as a network in the pilot region. Due to the broad data collection and analyses, a realistic budget is drawn up, by which long term (institutional and financial) sustainability can be surveyed as well.

Three models of child day-care nurseries were designed which are suited for the situation of the settlements. The financial situation of the families of the children who live in the examined settlements, the available human resources of each city, the opportunities of expanding existing services and the traditions and experiences of the formerly applied practices in the field of services were taken into consideration.



The three cities involved in the development meet differently the conditions of realization of the outlined models, so it is necessary to develop and realize different models to achieve success:

- Model 1: “Capacity enhancing” base model: This model supports the return of the women to the labour market as full-time employees because it includes a supervision of at least 5 days/week and 8 hours/day.



- **Model 2: Child day-care nurseries operating in a network:** Operating in a network is basically a supply organization form but in the case of child day-care nurseries it includes the development and the practical implementation of a common professional framework, professional program and supply policy by taking into account the local needs and the specific target groups of each child day-care nurseries.
- **Model 3: Child day-care nurseries as supplementary services:** This model can satisfy several demands. For instance, child day-care nurseries receive the children of employees who have a part-time job or don't have typical working hours (8 hours) e.g. only on certain days of the week (2-3 days weekly) or at a certain time of the day (4 hours daily). With this model it is possible to take part time jobs and seasonal jobs as well.

Along with the feasibility study policy recommendations were elaborated either on micro or on macro level:

- Micro level recommendations support local decision-makers in the effective organisation of public services mainly in case of less-favoured settlements.
- Macro level recommendations are suggestions for decision-makers working on the micro level in the form of determining framework conditions for the development and maintenance of social services.

The results and recommendations were presented to stakeholders during different workshops. Besides, the recommendations are included in national and regional strategic development plans.

The 'Promoting the return of women to the labour market by launching integral nursing services for children' was launched in Észak Alföld, Hungary, as a pilot action in the ADAPT2DC project.

Further information: Zsuzsanna ANTAL, Dr. Észak-Alföld Regional Development Agency

Non-profit Limited Company Tel: +36 52 502 791 E-mail: zsuzsanna.antal@eszakalfold.hu

- Bring **child care** and **care for the elderly** together in one building using the same infrastructure and employees and offer programmes where both can profit from each other.

Intergeneration house "Fruits of Society" in Murska Sobota, Slovenia

The intergeneration house in Murska Sobota, Slovenia was opened in 2009 and it is located near the local schools, a library, a park and a home for the elderly which makes it easily accessible to the target groups. The programmes offered in the house are designed to meet the needs and abilities of older as well as younger generations. Special emphasis is put on the intergenerational exchange of knowledge and experiences and lifelong learning. The activities of the house include different workshops like pottery, ceramics, theatre and cooking. The programme of the house is mainly based on voluntary work. Also the local schools involve their pupils to work voluntarily in the house which leads to positive changes: the children feel stronger connected with their commune, develop self-confidence and responsibility. At the moment the house plans to develop social services in order to become a social enterprise that allows the creation of additional income for the house.

Further information: <http://hisa.sadezidruzbe.org/>

The case of the secondary school of Herbsleben, Germany

The municipality Herbsleben chose a path that is not very common: in 2008 it was decided that the secondary school of Herbsleben must be closed (these decisions are taken by the district, which is responsible for distribution of schools). Therefore the municipality decided to take over the school into its own responsibility; it became the school board (school maintaining body). It was decided that the school in Herbsleben shall be a collective school which can give out all types of certificates (from A-Level to GCSE). In order to finance the school, the district levy is reduced for the municipality (this is to pay the running costs). For investments, the municipality receives the school investment allowance from the Land (which is normally paid to the district). The teachers continue to be paid by the Land.

- **Decrease standards** (such as, the minimum number of children that are needed to keep a nursery open).

Orienting questions

How is the provision of social services managed in your area? Who are the main stakeholders?

Were there any shutdowns or reorganisations of institutions providing social services and child care services in your area? If yes, what was the result of these actions in term of the finance and quality of services?

What is the system of maternity leave in your area? (Length of paid maternity leave, entitlements, amount of financial support, possibility of paternal leave, possibility of work while on maternity leave etc.)

Do child care services meet the demand in your area? (Quantity of places, accessibility of services etc.) If not, what are the main shortages?

What is the rate of female labour market participation in your country and in your area? Is there a potential in the promotion of the return of women into the labour market? If yes, how could child-care services assist women in it?

How widespread is part-time work in your area?

Are there any settlements/settlement quarters in your area, which have problem with staff provision in social services?

Are you aware of any new, innovative solutions to improve social services (e.g. multifunctional facilities, flexibilisation, etc.)?

5.3.3. Local supply

Changing demand caused by ageing and shrinking also affects the providers of local supply and services. The decreasing number and purchase power of the clientele of local shops may lead to their shutdown, especially in depopulated rural areas, while the elderly and poor people are the less capable (physically and/or financially) to travel to a further shop or shopping centre to fulfil their needs. In





addition these kind of places (shops, post offices, etc.) have a symbolic significance as they function as 'agoras', local meeting points for the communities, thus their presence is important for the liveability of the given community.

Recommendations:

- **Involve citizens** and their voluntary work with additional fundraising for new activities.

DORV Bundling of local and social services, usage of an abandoned building and establishing a central meeting point in the village

After the last grocery shop and the bank had closed, several citizens of Barmen and the surrounding municipalities decided to change something. Since it was clear that the public sector would not (be able to) fund the re-establishment of social services in Barmen, several citizens founded a cooperative. Within a few days they had collected the necessary budget, shares with a value of 70 000 € had been bought by the inhabitants. The money was mainly used for the sanitation of the abandoned bank building. Now the former bank offers groceries and several services such as a bank, a post office, regional administration offices and a health insurance office. For the groceries the providers initiated cooperation with regional wholesale groceries for a regional food supply and the support of regional food producers. The providers of the central village service centre also coordinate social and health care services for the elderly, disabled and families. Additionally the centre has become the central meeting and communication point in the village where all inhabitants come together. This helps to strengthen the identification with the village and supports the will of the inhabitants to stay in the village as long as possible and engage voluntarily in the success of the centre.

For municipalities this model offers several cost saving options through the voluntary engagement of the citizens, the establishment of a cooperative and the bundling of services in one central place. Additionally the centre offers two full time jobs and four positions for marginally employed. It is led voluntarily.

Further information: Sächsische Staatskanzlei (2010): Den demografischen Wandel gestalten. Anregungen für die Praxis, p. 47-51

- **Promotion of entrepreneurship** may be an effective tool to improve the economic base in ageing and shrinking regions, as well as to improve local supply. E.g. promotion of self-production (such as, self-production of food and energy) reduces costs, creates new job opportunities and facilitates a healthier life style for residents.
- **Focus on regional products** (less dependency from global chains and regional marketing that attracts tourists).

Village Shop Allgaeu Krugzell

When the only grocery shop in Krugzell was closed a concept was developed in order to guarantee its citizens the supply with groceries. The project idea was integrated into the funding programme of the European Union, LEADER +. The village shop was financed by LEADER + (12 986 €) and by the citizens of Krugzell who could buy share certificates. By that they are not only financially, but also emotionally involved in the project. The shop was opened in 2004 and has been very successful amongst others by offering mostly regional products, using regional networks, creating jobs (11) and establishing a social meeting point in the shop. The shop is led voluntarily.

Further information:

http://www.netzwerk-laendlicher-raum.de/beispiele/projektdatenbank/?no_cache=1®ionId=170&projektId=253&subMenuNavigationOn=0&aktion=details&id=713&bundeslandId=3

<http://www.altusried.de/>

- **Maintenance and development of communication networks** in areas affected by demographic change is important in order to prevent marginalisation, provide cost-effective services and support measures to counterbalance shrinking and ageing. Such actions include, among others, an extensive broad-band provision and maintenance of post services through the development of new organising models
- Using ICT technology and mobile services.

Mobile Citizens Advice Bureau

With the development of a mobile and flexible Citizens Advice Bureau - in the form of a suitcase that carries the needed equipment – reduction of expenditures for public administration and time and cost savings for communes and citizens can be reached. For the usage of the suitcase only internet access is necessary. With the flexible Citizens Advice Bureau all surrounding small municipalities of Wittenberg can be reached. Costs savings for communes can be realised because the flexible bureau is less cost intensive than a permanent one. The development of the suitcase created costs of around 5 000 €. Its usage enables cost savings of around 50 000 € because the installation of fully equipped administration offices is not necessary anymore.

Further information: competition BMVBS 2012 “People and Success”

<http://www.menschenunterfolge.de/wettbewerb-2012/aktuelle-beitraege/beitraege-2012.html>

- Introduce **innovative financing opportunities** (time bank, cooperatives, community supported agriculture).



- cooperation between **public and private stakeholders** for bundling of resources, realisation of multifunctional facilities and a flexible organization within public facilities
- **Spatial bundling** of different services in one place - one person takes care for several institutions/duties.

The multiservices center in Oстана (Po valley)



The pilot action consists of the creation of a multi-service centre. In the small mountain community of Oстана, this brings new offers that were previously not available and at the same time provides previously existing services more efficiently.

In particular the centre is organized as a meeting point joining together different services dedicated to residents and visitors. It will also offer the possibility to buy regional products, and offer complementary information and tools, working also as a communication and meeting point for people

from different generations. The centre is set to include the following services:

- A premise for local associations
- A library, an indispensable need for a growing young population. The library will be the premise also for the rising *Widespread Library on Alpine Culture*
- The presentation and sale of local agri-food products and the general promotion of the valley
- The coordination of a “widespread hotel”, connecting the main B&Bs of the area
- An internet point
- The coordination of a car sharing service in collaboration with the other upper Po municipalities and environmental associations in order to promote a sustainable accessibility to the mountain area
- The information point of the “Alpine Convention”



Besides these first already implemented services, other ones are being prepared:

- The sale of counter medications, that from 2006 in Italy can be sold in shops with a simplified regulation than Pharmacies, the so-called Para-Pharmacies;
- The family doctor will receive weekly in the centre and the same centre can coordinate the requests and collect the medical recipes
- A pick-up service for drugs and medications, in particular for elderly people
- A small kindergarten meeting room/playroom could be dedicated to this service, which is missing today



The following steps were part of the pilot action: designation of an appropriate building, finding a responsible manager for the centre, renovation of the building, agreement with local agricultural producers for providing fresh fruit and vegetables, opening of the centre, communication campaign and promotion of the new services. All of this was done in close cooperation with the local municipality (for the renovation works, external funding was available).

The centre is seen as a pilot because none of the other municipalities of the area have a similar centre that merges different public and private functions. In the first months of experience, users were not only the local inhabitants but also many tourists that came to Ostana for vacation.

Further information: DELEGAZIONE PIEMONTESE UNCEM e-mail: uncem.eu@gmail.com

Contact person: Erich Giordano, Flavia Gai Miniet

As public administration is key in service provision as well as implementing actions to adapt to demographic change, **solutions applied in the public administration** are relevant. Such solutions may include:

- demographic check for planning new infrastructure;
- demographic coaching: professional support on issues related to demographic change for those responsible in communes.

Demography coaches in Saale Orla District, Thuringia and in Oberfranken-Ost Bavaria, Germany



The pilot action in Germany was a bit different from the others in the sense that the starting point was not a particular infrastructure, but instead the starting point was a method. This method is called “demography coaching” and it means that an external expert (the “coach”) is contracted who then works with the stakeholders of a particular region in order to identify necessary measures. The measures were supposed to focus on opportunities of cost-saving and efficient provision of infrastructures (as always within ADAPT2DC). Thus, the coach firstly started a process of communication with all relevant stakeholders, such as mayors,

the Landratsamt (= district office), associations of the civil society and of course infrastructure providers. In this way, the possibilities for small-scale pilot measures were identified. The actions were thus developed by a bottom up participatory approach, instead of imposing a predefined topic from the outside.

The aim of the pilot action is the identification of a *demography coach* who will help to identify, together with the local actors, useful projects coping with demographic change. In particular, key measures are identified with regard to two objectives: improvement of intergenerational primary care and enhancement of mobility. The measures in addition were supposed to focus on opportunities of cost-saving and efficient provision of infrastructures. Thus the coach firstly started a process of communication with all relevant stakeholders, such as mayors, associations of the civil society and of course infrastructure providers. As the involved local communities have evidently different needs and requirements, at the present stage a first step has consisted in the involvement of local actors in the detection of some preliminary ideas to be discussed in a collective way. In this manner the actions were developed by a bottom up participatory approach, instead of imposing a



predefined topic from the outside. Two pilot regions were targeted by this coaching, firstly the Saale-Orla-district in Thuringia and secondly the region Oberfranken-Ost in Bavaria. Both coaches were found by way of public tender.

More information: <http://www.thueringen.de/th9/tmblv/presse/pm/71476/>

5.4. Transferability and best practice pursuit²⁰

Based on the clustering of NUTS3 territories; made up in a joint computation of the PCR (proxy cost ratio) as well as economic, spatial and demographic variables; one may see a potential to seek for territories of similar characteristics. The variables taken into consideration for the demographic performance of a territory are:

- the proxy cost ratios (PCRs) of public service costs within the different infrastructure sectors
- the population change (years 2000-2010)
- the long term population change (years 1990-2011)
- the average rate of natural population increase (years 2000-2010)
- the elderly to active population ratio (year 2008)

A set of different cluster-types was generated for social care, health care, public housing, water and sewage and public transport²¹. The territories that share resembling characteristics can be used in order to enable a better future transfer of solutions and best practices among Central European regions. In other words, for instance those interested in solutions over water and sewage management and adaptation to policy or operational schemes, should at first focus on areas characterised by similar economic, spatial and demographic variables and only then refer to relevant supply-side solutions over the practices.

See map of clusters of similar territories in Central Europe according to health care proxy cost and other variables on the website

In case of health care, for type A the majority of territories represent intermediate and rural areas where ageing is much higher than average and natural increase as well as long-term population

²⁰ This subchapter summaries the results of the Output 3.2.6.'Internal Report on Cross analysis of infrastructure and service costs' written by one of its authors Artur Ochojski (University of Economics in Katowice, Poland).

²¹ Country limitations apply due to missing or incomplete business intelligence data.

change have low values. Type B is dominated by intermediate territories with highest values of long-term population change. Type C most of all offers a picture of urban territories where PCRs, population density and GDP per capita present the highest values. Type D is characterised by lowest PCRs, GDP per capita and natural increase. These are mainly rural territories. Finally type E represents the lowest values of ageing and population density as well as highest natural increase. In case of health care sector, we can observe clear division of Central European countries on group in which clusters type E and D are dominant, and group with clusters type A and B. The first group consists of Poland, Slovakia, the Czech Republic and Hungary. The second group consist of Germany, Italy. However, in this countries there are some territories of different types. Austria and Slovenia are most diverse countries taking into account clusters types.

See map of clusters of similar territories in Central Europe according to water and sewage proxy cost and other variables on the website

In case of water and sewage services type A represents both rural and intermediate regions with low levels of: GDP per capita, ageing and population density. Intermediate regions dominate in type B which is characterized by the highest levels of natural increase and population change as well as the lowest PCRs. Type C is a mix of different territories where natural increase is low and all other variables are close to an average. The specifics of type D – of mixed territories – are the highest values of ageing and the lowest values of natural increase and population change. Mainly urban territories form the type E. They present the highest values of PCRs, GDP per capita and population density. Most of territories in Poland, the Czech Republic and Slovakia are of the same type, i.e. A, except large urban areas of type E. The remaining Central European countries are very diverse, some “islands” of similar clusters types can be observed; for example in Hungary or Eastern Germany. In Italy different types dominate in North-West (type E), central (type C) and South (type A) regions.

See map of clusters of similar territories in Central Europe according to public transport proxy cost and other variables on the website

In transport services type A is dominated mostly by urban territories. They present the highest values of PCRs, GDP per capita and population density. Type B consists mainly of intermediate and rural territories, characterized by the highest values of population change. Similarly type C consists of intermediate and rural territories but their specifics is the lowest population change and natural



increase as well as significant ageing. A mix of different territories in type D is characterised by the highest values of natural increase and the lowest values of GDP per capita, population density and ageing. In Poland, the Czech Republic and Slovakia most territories are of type D, except large urban areas, which represent clusters of type A. We can also observe clear internal differences in Germany, Slovenia and Austria.

Review questions

What are the main effects of ageing on demand for health care and long term care?

List a few techniques that can be used to adapt health care services to demographic change!

How can health care be provided in declining regions?

What are the main effects of shrinking on the supply of social services?

List a few adaptation techniques that can improve the provision of social services in shrinking regions/cities!

List a few techniques that can be used to adapt housing to demographic change!

How can spatial planning react to demographic change in urban areas?

How can spatial planning react to demographic change in rural areas?

List a few actions in public administration that can support adaptation to demographic change!

How can voluntary engagement support adaptation actions, and what are the risk associated by the involvement of voluntary engagement?

Orienting questions

Were there any shutdowns of local shops and services in your area in the last 5 years?

Were there any local protests against these shutdowns?

Were there any new solutions (spatial bundling in multifunctional centres, cooperation/voluntary work of local residents in order to provide such functions again?

How common is voluntary engagement in your area? Which population groups are mostly active in voluntary actions?

Are you aware of any new, innovative solutions to improve public administration on the spot (e.g. ICT technology)?



Checklist – questions to consider if you plan to adapt services to demographic change

In the next sub-chapter we collected orienting questions in order to:

- 1) orient readers to get acquainted with processes of demographic change in their specific area;
- 2) assist them in identifying the main impacts of demographic change in their area;
- 3) guide them to identify challenges brought by demographic change in the specific sector(s) of their interest;
- 4) help them in planning actions to adapt service provision to the challenges posed by demographic change.

1.) What is the 'state of demographic change' in your region/district/area?

- *How many people live there?*
- *Is there a growing or a shrinking population?*
- *Is there a natural growth or natural decrease?*
- *Is the migration balance positive or negative?*
- *How many children are born per year? How much is the Total Fertility Rate?*
- *What is the expected life span of men and women currently?*
- *What is the share of the elderly (above 65) in the population?*
- *Are there any differences within your region in this question? Are there any territorial units with a different demographic character?*
- *Do you have any policies concerning demographic changes and their impacts at the national/regional level?*
- *If you have, what are their main aims to tackle demographic changes and their impacts?*

You can check available data on

http://epp.eurostat.ec.europa.eu/portal/page/portal/population/data/main_tables

or the 2.3 sub-chapter!

2.) Which are the most important impacts of demographic change on service provision in your region/district/area?

- *Were any public services and facilities closed down in your area in the past 10 years due to – supposedly – demographic change? What kind of services and facilities are affected? Are there areas where vacant public facilities are more common?*
- *In case shutdown of services and/or infrastructure took place in your area in the past 10 years: were there any public debates, protests accompanying such moves?*
- *Make a 'problem list' of things in your area which might pose a barrier to elderly people in using public services and spaces!*



- *Are you aware of any new services opened in your area in the past 10 years which serves the specific needs of the elderly? What type of services are these?*
- *In case basic and/or specialised health services exist in your area: how did the workload of health service providers change in the past 10 years?*
- *In case elementary schooling is present in your area: how did the number of pupils change in the past 10 years?*
- *How many vacant housing units are there in your area? Are there areas where vacant housing is more common?*
- *How did the housing property prices in your area change in the past 10 years?*
- *Is any of the areas affected by vacant property considered by local society as dangerous and/or 'problematic' in any sense?*
- *Are there any areas in your vicinity where poor people are concentrated? What kind of areas are these? (Urban/rural, physical characteristics, supply with services and infrastructure etc.)*
- *Is there any sign of reuse of vacant property? What kind of reuse is this?*

3.) Challenges of demographic change in service provision

In which fields of public services are you interested in: transport, water/sewage, health care and long-term care, social services, housing, or local supply? Please answer the questions that belong to the area of your interest!

Transport

Are there any settlements/settlement quarters in your area, which have no access to public transport? (I.e. the first public transport stop is further than cca. 500 metres?)

Are you aware of any settlements/settlement quarters in your area where the schedule of public transport does not meet needs (e.g. lack of access to workplaces, services on time, lack of public transport during the evening)?

Are public transport facilities barrier free in your area?

How did public transport fares change in your area in the past 5 years?

Who are the (main) public transport provider(s) in your area?

Were there any changes in the public transport system which affected the public transport offer in your area in the past 5 years (e.g. shutdown/opening of railway or bus lines, rearrangement of schedules)?

Are you aware of any new, innovative solutions to improve the mobility of local residents (e.g. car sharing, call buses, possibility for other passengers to enter school buses)?

Water/sewage

How many percent of housing is connected to the sewage network in your area?

How did the price of water and sewage treatment change in your area in the past 5 years? How did it change compared to the national average (if such data are available)?



Are you aware of any new, innovative solutions to adapt water/sewage treatment facilities to demographic change in your area?

Health care and long-term care

How is provision of health care managed in your area?

Who are the main stakeholders in the field of long-term care?

How is the provision of health care financed in your area?

How did public health expenditure change in the last 5-10 years in your area?

Were there any shutdowns or reorganisations of institutions providing health care and long term care in your area?

If yes, what was the result of such actions in terms of the finance and quality of the given services?

Is there public debate on improving the quality of (public) health care in your area?

Are there any settlements/settlement quarters in your area, which have problems with staff provision in health care?

Are you aware of any new, innovative solutions to improve the health care and long term care of residents (e.g. ICT technologies, Telemedicine, mobile practices, etc)?

Childcare and other social services

How is the provision of social services managed in your area? Who are the main stakeholders?

Were there any shutdowns or reorganisations of institutions providing social services and child care services in your area? If yes, what was the result of these actions in term of the finance and quality of services?

What is the system of maternity leave in your area? (Length of paid maternity leave, entitlements, amount of financial support, possibility of paternal leave, possibility of work while on maternity leave etc.)

Do child care services meet the demand in your area? (Quantity of places, accessibility of services etc.)

If not, what are the main shortages?

What is the rate of female labour market participation in your country and in your area? Is there a potential in the promotion of the return of women into the labour market? If yes, how could child-care services assist women in it?

How widespread is part-time work in your area?

Are there any settlements/settlement quarters in your area, which have problem with staff provision in social services?

Are you aware of any new, innovative solutions to improve social services (e.g. multifunctional facilities, flexibilisation, etc.)?

Housing and public spaces

What is the ratio of public housing in your area? What is the ratio of owner occupied housing?

Who are responsible for the public housing stock in your area?

In case there is vacant public property in your area: Who is responsible for the management of vacant public property in your area? How does it manage vacancy?

Are there any examples in your area for:



- *function change – what happened?*
- *downsizing buildings (partial demolition, or partial closing, partial function change)*
- *demolition of buildings – what happened to the area managed after the demolition?*

Were any programmes carried out to improve energy efficiency? What kind of buildings were involved?

Is there urban sprawl in your area?

In urban areas:

Were any actions taken in the past 5-10 years that aimed to develop a more compact urban structure in your area? If yes, list a few such actions!

Were there any actions that aimed to create a more elderly friendly built environment in your area?

What were these actions?

Were there any actions that aimed to create a more family- and child friendly built environment in your area? What were these actions?

In rural areas:

Were there any actions that aimed a spatial rearrangement of functions as a response to demographic change in your area? What kind of actions were taken?

Local supply

Were there any shutdowns of local shops and services in your area in the last 5 years?

Were there any local protests against these shutdowns?

Were there any new solutions (spatial bundling in multifunctional centres, cooperation/voluntary work of local residents) in order to provide such functions again?

How common is voluntary engagement in your area? Which population groups are mostly active in voluntary actions?

Are you aware of any new, innovative solutions to improve public administration on the spot (e.g. ICT technology)?

4.) Plan an action!

Choose a topic – in which you are interested in, or the most urgent in your area – from the ones discussed above Plan an action in the chosen policy field, considering:

- *What are the main policy documents governing this field in your area? (Consider different territorial levels.)*
- *Who are the main stakeholders in the specific topic in your area? Consider different types of actors from (a) local politics (b) local administration (c) NGOs and religious organisations (d) private actors such as utility providers (e) local citizen groups (f) strong informal leaders (g) institutions representing collective interests (h) actors from neighbouring communities (i) actors from other territorial levels.*
- *Sketch a 'plan for planning'! Whom would you involve and in what form? What would be the main steps of the planning process? What would be the outputs of planning?*



- *Are there any options for actions in the chosen field which*
 - *directly save costs?*
 - *save costs through avoiding greater or future costs?*
 - *lead to indirect savings?*
 - *lead to new incomes?*
 - *lead to non-monetary benefits?*
- *Are there any regulations or standards which might need revising?*
- *Are there any other fields (policy areas) which have strong interlinks to the chosen field, therefore might need action? (E.g. spatial reorganisation of social services needs a consideration of transport opportunities.)*
- *What could be the main financial sources for such an action? (Consider innovative models of social finance too!)*
- *What could be the most telling performance indicators of the action?*



Useful terms

Ageing	Ageing means a growing proportion of elderly age groups in the total population. One of the widespread indicators of ageing is mean age. A higher mean age may be due to the ageing of the population in place, but may also be due to selective out-migration of the younger population. Not only the level of ageing but also the pace of ageing is crucial for analysis of population development.
Death rate	The rate of deaths is most commonly measured by the crude death rate, that is, the number of deaths per year per 1000 residents.
Dependency ratio	The ratio of those typically not in the labour force (the <i>dependent</i> part) and those typically in the labour force (the <i>productive</i> part). It is used to measure the pressure on productive population.
Demographic coaching	Professional support on issues related to demographic change for those responsible in communes. Its main aims include assisting the identification and implementation of projects that deal with the adaptation of infrastructure to demographic change. The focus of work of demography coach lies, above all, in communication, aggregation and networking of actors and content.
Hard infrastructure	The term 'infrastructure' refers to the basic physical and organisational structures and facilities (e.g. buildings, roads, power supplies) needed for the operation of a society or enterprise. Hard infrastructure includes technical structures that support the operation of a society, such as roads, bridges, water supply, sewage systems, electrical grids, of telecommunications. ²²
Life expectancy	Life expectancy at birth is a synthetic indicator of quality of life which reflects past and current living conditions (the nature of jobs, quality of healthcare, economic and environmental conditions, etc.) and habits (consumption and eating habits, lifestyle, social conditions, etc.). From a demographic perspective a higher life expectancy means a longer period of healthy active life but also a longer period of life with a need for health-care services.
Local supply	Services fulfilling the people's everyday needs, such as, household goods (e.g. food, medicals), personal services (e.g. cleaning, catering, law) and communication (e.g. postal services), typically delivered close to the place of residence.
Natural population change	Natural population change is the difference between the number of live births and deaths during a given time period (usually one year). It can be either positive or negative. Natural population increase is a positive natural change, when the number of live births is larger than the number of deaths during the time period considered. Natural population decrease is the opposite, a negative natural change, when number of deaths exceeds the number of births ²³ .

²² <http://www.oxforddictionaries.com/definition/english/infrastructure>,
http://en.wikipedia.org/wiki/Infrastructure#cite_note-opendb.net-9

²³ http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Glossary:Natural_population_change



Net migration rate	Net migration rate is the difference of immigrants and outmigrants of an area in a period of time, divided (usually) per 1,000 inhabitants. A positive value represents more people entering the country/region/area than leaving it, while a negative value means more people leaving than entering it ²⁴ .
Old-age dependency ratio	The ratio measures the number of elderly people (above 65) as a share of those of working age (aged 15-64). As the ratio increases there may be an increased burden on the productive part of the population to maintain the pensions and other costs of the elderly.
Replacement level fertility	The total fertility rate (TFR) that (if sustained) secures the replacement of the current population. In developed countries it is app. 2,1 children per woman.
Shrinking region	The concept of the 'shrinking region' is a recent one, even if the phenomenon goes back many years. What is essentially new is that depopulation affects entire regions, including urban areas ('shrinking cities'). The accurate definition of the concept is still the subject of debate. Even if the phenomenon of population decline is often linked to ageing, and certain unfavourable economic and social changes, it is preferable to stand by the simplest definition, which is the reduction in the number of inhabitants of a particular region during a longer time period. In the framework of the ADAPT2DC project population shrinkage is defined as the relative decline in the total population size in a NUTS3 region in a ten-year period.
Silver economy	New economic segments opened up by older consumers' rising demand for new types of products and services, such as personalised care, technological solutions enabling people to maintain a healthy and independent life as they age. The term 'silver economy' sometimes also encompasses the fact that there is an increasing segment of older workers who ought to be considered a resource in the labour market (additional productivity through longer careers, transferable skills to younger workers) contributing to economic growth. ²⁵
Social (soft) infrastructure	Institutions which are required to maintain the economic, health, and cultural and social standards of a country, such as education, health care, the financial system, the system of government and law enforcement. ²⁶

²⁴ http://en.wikipedia.org/wiki/Net_migration_rate

²⁵ A. Zaidi, Age friendly goods and services – an opportunity for social and economic development (Poland, 29-30 October 2012) Mobilising the Potential of Active Ageing and Silver Economy: Opportunities and Challenges for Social and Economic Development, ÖSB Consulting, 2012, p. 3.

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ADAPT2DC partnership and contacts

Lead Partner



Thuringian Ministry for Building, Regional Development and Infrastructure

Further information:

<http://www.thueringen.de/de/tmblv/>

PP2



Leibniz Institute for Regional Geography

Further information: <http://www.ifl-leipzig.de>

PP4



Institute of Sociology of the Academy of Sciences of the Czech Republic

Further information: <http://www.soc.cas.cz>

PP5



Ústi Region

Further information: www.kr-ustecky.cz

PP8



Észak-alföld Regional Development Agency Non-profit Limited Company

Further information: www.eszakalfold.hu

PP9



UNCem - Unione Nazionale Comuni, Comunità ed Enti Montani – Delegazione Piemontese

Further information: www.uncem.piemonte.it

PP10



Katowice

Further information: www.ue.katowice.pl

PP11



The Malopolska Region

Further information: www.malopolskie.pl

PP13



Urban Planning Institute of the Republic of Slovenia

Further information: <http://www.urs.si>

PP14



Planning

Further information: www.nth.gov.hu