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Resilience to Urban Shrinkage in Riga

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Lita Akmentina

October 2017

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Abstract

Riga has suffered a population loss of more than 29% between 1990 and 2014 which has led to increasing number of abandoned and degraded buildings in the city and optimization of the network of educational and cultural institutions. These trends are characteristics of urban shrinkage – a complex process affecting Riga for more than two decades and resulting in a pattern of growing, shrinking, and stable districts. A similar pattern has also been identified in other shrinking cities in Europe, but it has not been researched in more detail.

In the given context, this research aims to narrow the knowledge gap on processes occurring in shrinking cities and to provide some understanding of the determinants of these processes on the city and local level through analysis of single embedded case study of Riga. To achieve this aim, resilience is used as an analytical concept. It allows to conceptualize urban shrinkage as a slow-burn (slowly occurring disturbance) and propose three possible responses - adaptation, transformation, and decline. These responses emerge from actions of actors on various spatial scales and lead to different outcomes. It also provides the basis for analyzing the determinants of these responses by conceptualizing them as sources of resilience and suggesting seven different aspects found in literature: leadership, networks, resources, learning, people-place connection, common cause, and system of institutions and governance. Finally, these theoretical assumptions are used to define two main research questions: (1) what are responses to urban shrinkage in Riga? (2) what are sources of resilience to urban shrinkage in Riga?

The need for in-depth research of urban processes led to choosing mixed method strategy for both selecting the embedded units of analysis (districts) in Riga and finding answers to the proposed research questions. Based on combined results of secondary data analysis, controlled expert group discussion, and structured site visits, five districts in Riga were selected – *Avoti, Maskavas forštate, Bolderāja, Sarkandaugava,* and *Ķīpsala*. Further data collection and analysis included semi-structured interviews with different actors at the city and district level and document analysis.

The study finds that there are four different responses to urban shrinkage in Riga: mitigation, adaptation, transformation, and possible decline. Mitigation can be identified on city (also national) level and is closely linked with the strategic actions proposed by the local and national government in response to population decline. Adaptation can be observed on the city and local level. It is the dominant response type in Riga emerging from strategic actions and different activities by various actors in response to all of the identified processes associated with urban shrinkage in Riga. Transformation, however, can be found only on local level – district (in one specific case) or unit level. It emerges from activities of mostly non-government actors that are making use of the opportunities provided by urban shrinkage in Riga. Finally, further decline is a potential response in several Riga districts resulting from strategic actions of local municipality and inability of some of the actors to deal with the existing situation.

The analysis of sources of resilience reveals that there are four main determinants of adaptation and transformation – leadership, networks, resources, and learning. Other sources of resilience (people-place connection, common cause, and engaged governance) function as additional drivers or catalysts. All of these sources of resilience can be identified in Riga, but not consistently across all spatial scales and units or actor groups. The main deficiencies are linked with availability of resources (human and financial) among different actor groups, the existing system of governance (involvement of actors in the decision-making process) and leadership (on city level). The study also shows differences related to responses to urban shrinkage and different sources of resilience, especially leadership, learning, and resources.

Overall, the findings support the main theoretical assumptions of the study and allow refining the understanding of responses to urban shrinkage and sources of resilience. The results can be used as the basis for developing an approach for assessment of the level of resilience to urban shrinkage or other slow burns in the urban context.

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1 Introduction

1.1 Research background and aims

Riga has suffered a population loss of more than 29% between 1990 and 2014 which amounts to almost one-third of the population it had in 1990 (Central Statistical Bureau…, 2015). The available demographic prognoses for 2030 do not predict major changes in this trend. For example, all the scenarios suggested by Eglīte, Ivbulis & Gņedovska (2012) predict that the population in Riga will drop below 600 thousand residents by 2030 which is a significant further decline considering that the population in Riga in 2014 was 643 368 residents (Central Statistical Bureau…, 2015). These prognoses contradict the strategy of the local authority – it is stated in Riga Sustainable Development Strategy 2030 that Riga will be a city with 700 thousand residents by 2030.

Population loss is not the only problem that Riga is facing. There is an increasing number of abandoned and degraded buildings – a problem to which the municipality is struggling to find solutions. The city has also undertaken some steps to optimize the network of educational and cultural institutions like secondary schools and libraries. These trends are already characteristics of a more complex process that goes beyond the population – 'urban shrinkage.'

The situation is made more interesting by the emerging pattern of 'winners' and 'losers' in Riga. Based on the data that is available on population dynamics in Riga districts between 1997 and 2010, it is possible to identify districts where the population has been increasing, those where the population has been decreasing, and those where it has remained relatively stable. There is also a considerably higher concentration of degraded buildings in specific districts contributing to increasing the contrasts among different urban areas within Riga.

The overall trend of continuous population loss and resulting negative impacts on the urban environment, as well as the apparent pattern of growing and shrinking urban districts in Riga, led to raising some initial questions: 'How is the city responding to or dealing with the complex process of urban shrinkage?', and 'Why are some districts affected by this process more than others?' Some insights were first sought in the available literature to understand the current level of knowledge on urban shrinkage in Riga and beyond as well as to refine the research aims and clarify the initial research questions accordingly.

When this study was started, there was surprisingly little research background available on urban shrinkage in Riga or other cities in Latvia. The topic had become a part of the public debate mostly among planning professionals and experts from the related fields, but the opinions on urban shrinkage being an actual problem in Riga were contradictory leading to no real outcome. Academia had also disregarded urban shrinkage in Riga as a topic for research, but it had picked-up on related processes like population loss focusing

mostly on the causes of this phenomenon (e.g., Apsīte, Krišjāne & Bērziņš, 2012; Bērziņš, 2011) or future prognosis (e.g., Eglīte, Ivbulis & Gņedovska, 2012). Essentially, this provided insights into specific macro-processes bringing about population loss in Riga as well as the current and foreseen population dynamics, but supplied limited information on how population loss is affecting the urban life in the city or what steps have been taken to deal with the existing situation.

In contrast, urban shrinkage or shrinking cities have been a topic of interest in Europe and beyond for decades. Cities in Western and Eastern Europe have undergone this process in different periods of time, and there is a comparatively solid background of empirical studies (mostly case studies) to draw from. The existing international research background on urban shrinkages can be roughly summarized in 3 main categories: (1) the causes of urban shrinkage, (2) the impacts of this process on cities, and (3) the strategies and approaches that have been employed in managing or dealing with this phenomenon. At the same time, it is difficult to speak of a comprehensive theoretical concept of shrinkage because it is generally seen as a place-specific process (Pallagst, 2008, p. 7) and mostly studied based on the particular context of single cases. Moreover, the available studies focus on processes on the city level and fail to explore differences more locally. Overall, some authors have acknowledged that the phenomenon is creating 'winning' and 'losing' parts within the city – a perforation of growing and shrinking urban clusters (Bontje, 2004, p. 18; Rink et al., 2010, p. 49; Haase, 2008). However, they have not explored the reasons behind the emergence of this pattern. This knowledge gap resonates with the initial questions that were posed in the context of urban shrinkage in Riga and provided additional justification for the relevance of this study.

To sum up, the available background information on Riga and the international research base on urban shrinkage provided sufficient insights into the causes and manifestations of the phenomenon leading to a general understanding of urban shrinkage in Riga. However, it failed to deliver knowledge on different responses to shrinkage within the city that emerge as a pattern of growth, shrinkage, and stabilization which are essential for understanding the contextual aspects of these processes. Therefore, it was first proposed to find answers to the question (**RQ1**): What are responses to urban shrinkage in Riga? The question is aimed towards understanding different actions taken by actors locally and on the city level in response to urban shrinkage. The answers would allow distinguishing between different processes occurring in the city. However, it could not be done without an analytical concept that would help to structure the study and provide useful theoretical assumptions reflecting researcher's perspective.

Essentially, it was necessary to find an analytical concept that would allow avoiding focusing solely on the process of extreme decline resulting from shrinkage (or growth as it could not be attributed to the phenomenon). The idea for such concept was found in resilience literature. Tasan-Kok, Stead & Lu (2013, p. 48) in their conceptual overview of resil-

ience suggest that resilience helps accommodate change without catastrophic failure. Further literature studies on the resilience of social-ecological systems (e.g., Walker et al., 2004; Folke et al., 2010) and community resilience (e.g., Norris et al., 2008) revealed connections to adaptation and transformation as potential responses to a disturbance. In this context, it was possible to conceptualize urban shrinkage as a slow-occurring disturbance or slow burn which, according to Müller (2011, p. 4), can create winners and losers (a notion that is closely linked to the processes observed in Riga). Also, it allowed focusing the study on two potential responses to urban shrinkage – adaptation and transformation which helped to guide the empirical research.

By introducing the resilience concept and focusing the study around (but not limited to) analysis of suggested responses to urban shrinkage, it became possible to structure also the search for reasons behind the emerging patterns of winners and losers in response to urban shrinkage. The available literature on resilience provided insights into determinants, factors, and so forth facilitating resilience, adaptation, and transformation (e.g., Magis, 2010; Amundsen, 2012; Walker et al., 2006, and others). To ensure the inclusion of all the potentially relevant aspects (regardless the terminology used by specific authors), the term ‘sources of resilience’ was introduced, and the second research question was proposed (**RQ2**): What are sources of resilience to urban shrinkage in Riga? After careful review of the available resilience literature on this topic, seven potential sources of resilience were suggested as theoretical assumptions: leadership, networks, resources, learning, people-place connection, common cause, and the system of institutions and governance.

In the context of the proposed research questions, the study aims to narrow the knowledge gap on responses to urban shrinkage within a city in general and in Riga in particular as well as to provide some understanding of determinants of these responses on the city and local level. Additional theoretical contributions are sought through the application of resilience concept for the analysis of a slow-occurring disturbance or phenomenon in an urban setting. Furthermore, the foreseen results of the study are expected to provide background for practical contributions in dealing with urban shrinkage in Riga.

1.2 Study design

As already can be understood from the research background and research questions, the study is based on a single case of Riga. The choice to use the case study approach as a basis for the research design was mainly dictated by the phenomenon under study. Urban shrinkage is a complex real-life occurrence that is strongly embedded in a broader context of different macro-processes. Moreover, as the aim of the study is to look at processes on two spatial scales (city and local), selecting a single (embedded) case study approach was the logical solution to reduce the complexity of analysis as well as to make the study feasible in the given time frame.

Selection of Riga as the single case for this study was largely determined by the processes occurring in the city. The continuous population decline and other characteristics of urban shrinkage (e.g., increasing number of abandoned and degraded buildings and thinning-out of public infrastructure) led to a situation when it was possible to conclude that the process of shrinkage in Riga has reached the stage which would allow conducting a study identifying and analysing responses to this phenomenon (RQ1) and the drivers behind them (RQ2). Other considerations like author's familiarity with the local context and the knowledge gap on urban shrinkage in Riga and Latvia were viewed as advantages or additional justification of choice.

Another advantage of using Riga as the case study was the already existing concept of districts introduced in 2007. Essentially, it allowed operating with spatially defined urban units that could be used as the basis for selecting study areas (or embedded units of analysis) on a local scale. The actual selection process of the study areas, however, was rather complex and challenging. As mentioned before, there is a pattern of 'winners' and 'losers' in Riga that can be identified through secondary data analysis. However, the objective of the study was to avoid focusing solely on the process of extreme decline resulting from shrinkage (or growth). Therefore, mixed methods approach was employed for conducting thorough selection process that led to choosing districts based on the main theoretical concept. As a result, five different districts representing various responses to urban shrinkage in Riga were selected: Maskavas forštate, Avoti, Sarkandaugava, Bolderāja, and Ķīpsala.

Further data collection and analysis was already conducted in the context of these study areas but including also the city level. Taking into account the limitations dictated by the availability of quantitative data and the explorative nature of the study, the answers to both research questions were mostly obtained through semi-structured interviews with different actors and document analysis.

1.3 Thesis structure

The thesis has been structured in a comparatively traditional way starting with an introduction that provides insights into the general problem statement and objectives of the study and ending with conclusions providing an overview of the main findings and indicating further areas for research. It has been done to provide readers with a logical description of the research work that shows the evolution of the topic from the theoretical background through research design and methods into the empirical study and finalizing with concrete results and findings that are used as the basis for analytical generalization.

Overall, the thesis includes a description of the theoretical background in Chapter 2 that reviews the theoretical concepts used in research on urban shrinkage and resilience. It allows to synthesize own conceptual framework (Chapter 2.3) and refine research questions by proposing relevant theoretical assumptions. Chapter 3 is dedicated to describing

research design and methodology used for selecting the study areas and data collection and analysis. A separate chapter (Chapter 4) is then dedicated to the introduction of the case (Riga city and its districts) and provision of relevant contextual information. Chapter 4 is partially formed from a review of existing studies and own study results and explains the logic behind the selection of the specific study areas in Riga. The detailed description of results is provided in Chapters 5 and 6. These chapters are dedicated to providing answers to RQ1 and RQ2, respectively. Finally, Chapter 7 provides a summary of the main findings and conclusions.

2 Resilience to urban shrinkage

This chapter describes the theoretical background of this work leading to the development of a conceptual framework that is used as the basis for the study. The first part of this chapter is dedicated to reviewing existing knowledge on urban shrinkage in an international context. It describes the causes, characteristics, and indicators of urban shrinkage as well as provides a general concept of this complex process. The second part of the theoretical background is concentrating on resilience, specifically on a review of resilience perspectives that are applied for the development of a conceptual framework of urban resilience. The focus is on aspects of adaptation and transformation in resilience literature as well as on slow burn or slow-occurring disturbance that is comparable to the main phenomenon under study. The theoretical considerations on resilience are summarized in a conceptual framework of urban resilience to slow burn. This framework is then merged with the concept of urban shrinkage resulting in a conceptual framework of resilience to urban shrinkage that is depicted in the third part of this chapter.

Additional subchapter is dedicated to the identification of sources of resilience that summarizes the potential determinants of adaptation and transformation (processes introduced in the main conceptual framework). Finally, the results of the literature review are used to define theoretical assumptions for each research question and have been described in the last subchapter.

2.1 Understanding urban shrinkage

Urban shrinkage is not a new phenomenon. There is clear historical evidence describing cities undergoing phases of decline resulting in temporary setbacks or complete disappearance in the past. However, the process that is known today is considerably different from what was experienced before the 20th century – the causes and conditions under which urban shrinkage occurs are different, the length of the process has increased, and it is no longer an exceptional event (Rieniets, 2005, p. 20). According to Oswalt & Rieniets (2006, p. 8), the 20th century was not only a period of growth but also of shrinkage - more than 350 large cities worldwide had lost a significant number of inhabitants since 1950.

With this kind of widespread occurrence, one would expect urban shrinkage to be a well-researched and understood process. There are authors and international projects (e.g., SHRINK SMART) that provide insights into different aspects of this phenomenon from all over the world. The complexity of the process and place-based differences of researched cases (whether on national, regional or city level), however, have prevented an emergence of a commonly used conceptual framework. So far there have been several attempts to conceptualize this process (e.g., Rink, Haase & Bernt, 2009; Martinez-Fernandez & Wu, 2009). In most cases, the place-specific aspects still play an important

role in determining the causes and characteristics of urban shrinkage; therefore, the developed concepts have some limitations for application in other geographical areas. Nevertheless, the available literature and empirical studies provide sufficient basis for understanding the phenomenon and its main characteristics and give insights into specific features of urban shrinkage in Eastern European cities.

2.1.1 Definitions of urban shrinkage

Urban shrinkage or shrinking cities have several widely used definitions in the literature. To begin with, Wiechmann (2006) has defined a shrinking city as "a densely populated urban area with a minimum population of 10,000 residents that has faced population losses in large parts for more than two years and is undergoing economic transformations with some symptoms of a structural crisis." This definition is claimed to be a consensus achieved by a worldwide group of interdisciplinary specialists (the Shrinking Cities International Research Network (SCiRN™)) and has been used as a basis for several publications (e.g., Hollander et al., 2009).

Pallagst (2008, p. 7) provides a less concrete (but not necessarily less used) definition of urban shrinkage: "a multidimensional phenomenon encompassing regions, cities, and parts of cities or metropolitan areas that are experiencing a dramatic decline in their economic and social bases." Martinez-Fernandez et al. (2012, p. 214) further stress the fact "that this phenomenon is a multidimensional process with multidimensional effects," and contributes to some understanding of the symptoms of structural crisis – those are population loss, economic downturn, employment decline, and social problems. Kühn & Fischer (2011, p. 144) add to this perspective by suggesting that "shrinking cities are characterized by the multidimensional interaction of different challenges" (again emphasizing the multidimensionality of the process).

Under the umbrella of SHRINK SMART project, Rink, Haase & Bernt (2009, p. 5) have conceptualized urban shrinkage as "an event resulting from the specific interplay of different macro-processes at the local scale." The authors continue with the statement that "urban shrinkage occurs when the specific interplay of the mentioned macro-processes leads to population decline." However, they emphasize that population decline is only the main indicator of the shrinkage and should not be equalized with the phenomena as it also presents itself in many other forms. Großmann et al. (2008, p. 93) also have stated that not every city that loses population is a shrinking city – if a city does not show any other characteristics of urban shrinkage, it cannot be at that moment considered shrinking.

Further contributions to the understanding of urban shrinkage are related to the specific causes and characteristics of this process that are described in more detail in the following subchapters.

2.1.2 Causes of urban shrinkage

If there is something that many authors agree upon when it comes to urban shrinkage, it is that causes of shrinkage are many and complex (e.g., Pallagst, 2008, p. 8). It is further argued that causes can differ fundamentally from place to place (Oswalt & Rieniets (eds.), 2006, p. 37) contributing to the place-specific understanding of urban shrinkage.

Possibly the most comprehensive overview of causes of urban shrinkage can be found in 'Atlas of Shrinking Cities' edited by Oswalt & Rieniets (2006). The causes have been structured around four main topics: destruction, loss, shifting, and change, allowing to include a great variety of processes or events leading to shrinkage. Although the review of the causes provides a great amount of information supported by examples and data, there is a lack of more concrete structure to grasp the overall concept of causality. On the other hand, Rink, Haase & Bernt (2009, p. 7) provide three general reasons/causes in a form of macro-processes (economic development, socio-demographic trends and settlement system development) supported by two so-called events (environmental issues and political/administrative impacts) in their conceptual model of urban shrinkage. The difference between macro-processes and events is that events are seen as causes that might not be present in all cases. Similar categories of macro-processes and events are going to be used in this study as main causal groups of processes in an attempt to structure the great variety of causes of shrinkage (see Table 1).

The causes reviewed in Table 1 are mostly (not all) representations of different impacts of the overall trends of globalization (on national, regional or sometimes more local scales). It is most evident in the case of economic development and socio-demographic trends that tend to affect whole countries and regions and create a setting for urban shrinkage in cities and their neighborhoods.

According to Pallagst (2008, p. 8), the reasons behind shrinkage are partially overlapping. Großmann et al. (2008, p. 88) support this notion by suggesting that number of symptoms and causes of urban shrinkage are interlinked processes, one being a consequence of the other. The same applies to the causes presented in Table 1 – some of them are resulting from (or are being facilitated by) the others. For example, migration can be affected or even started by political impacts, economic decline or (on the more local scale) suburbanization. At the same time, migration contributes to increasing percentage of the aging population as well as further facilitates one of its possible causes – economic decline. This illustrates that the actual causes cannot be easily (if at all) dealt with as they are linked to much larger processes, rarely under the influence of the main stakeholders of a single shrinking city.

Table 1 Overview of causes of urban shrinkage (own compilation from Oswalt & Rieniets (eds.), 2006; Rink, Haase & Bernt, 2009; Holst Laursen, 2008; Martinez-Fernandez et al., 2012; Rieniets, 2005; Großmann et al., 2008)

Main processes	Causes	Description/explanation
Economic development	De-industrialization	The post-industrial shift from manufacturing to service industries
	Economic decline (Recession)	A significant decline in economic activity spread across the economy, lasting more than a few months
	Offshoring	The relocation of production facilities and services to regions with the most favorable economic conditions
Socio-demographic trends	Ageing	The progressively rising percentage of elderly due to low birth rates, increasing life expectancy, little immigration, out-migration of young population, etc.
	Natural population growth	Negative natural population growth when the mortality rate exceeds the birth rate
	Migration	Movement of residents from one area to another due to various push and pull factors, the most severe consequences are caused by out-migration of young people with above-average education
Settlement system development	Suburbanization	Sprawl of urban settlements beyond the bounds of a core city and into its hinterland
	Development of urban agglomerations	An increased centralization into huge urban agglomerations (mega-poles) that are draining essential investments and resources from other urban areas
Political impacts	Political transformation	Major changes in political system, e.g., a shift from socialism to post-socialism
	Wars and military conflict	-
Environmental impacts	Natural disasters	Earthquakes, volcanic eruptions, storms, tsunamis, floods, droughts, etc.
	Environmental disasters and pollution	Gas or chemical accidents, nuclear accidents, marine accidents, different kinds of pollutions, etc.
	Resource scarcity	The loss of resources like water or minerals or shortages of available energy
	Diseases and epidemics	-

In the case of Eastern European countries, literature sources refer mainly to the collapse of the Soviet Union and the subsequent consequences. A great number of shrinking cities emerged in Eastern Europe and the Near East due to the political, economic, and demographic instability that resulted from a major change in the market and political system (Rieniets, 2005, p. 27; Holst Laursen, 2008, p. 73). This process was followed by waves of migration to economically strong regions, negative natural population growth, and de-industrialization (Rieniets, 2005, p. 27; Beyer & Brade, 2006, p. 146). Although the impact of political transformation was great, it is also clear that the overall population decline in some post-Socialist countries (that are still occurring more than 20 years after the political

change) cannot be referred only to the collapse of the Soviet Union. There are migration processes (like suburbanization and emigration) that can be attributed to more recent causes of urban shrinkage in Eastern European countries. These causes will be reviewed later in more detail when describing the specific case of Riga (in Chapter 4.1.2).

2.1.3 Characteristics of urban shrinkage

Urban shrinkage makes an impact on almost every sphere of urban life (Rink, Haase & Bernt, 2009, p. 7) therefore the characteristics of this process are many and diverse. The objective here is to provide a general overview and understanding of impacts of shrinkage on a city (seen either as consequences or characteristics of the phenomenon by various authors).

The conceptual model of urban shrinkage developed within the framework of SHRINK SMART project refers to 5 groups of consequences for urban development: (1) change in population, social services, social cohesion; (2) decline in investment, labour force, and job offers; (3) decline in density – population, land use, and built structures; (4) underuse of housing, infrastructure, and transport; and (5) decline in municipal budget and tax revenues (Rink, Haase & Bernt, 2009, pp. 6-7). In general, these groups of consequences provide a good and all-encompassing view of effects caused by shrinkage which can also be seen as characteristics of this process. A structured summary of characteristics is provided in Table 2 in order to organize these and other often mentioned aspects (consequences or characteristics) of shrinkage in a comprehensive overview.

Table 2 Overview of characteristics of urban shrinkage (own compilation from Rink, Haase & Bernt, 2009; Martinez-Fernandez et al., 2012; Großmann et al., 2008; Kühn & Fischer, 2011)

Categories	Characteristics of urban shrinkage
Economic aspects of urban life	Unemployment
	Out-migration of the labor force
	Decline in labor market
	Decline in investments
	Decrease in property values
	Rising maintenance costs of the public infrastructure
	Shrinking municipal budget and decline in tax revenues
Socio-demographic aspects	Population loss
	Social (socio-spatial and residential) segregation
	Increasing crime rates
	Rising health and safety issues
	Negative impacts on the quality of life
Settlement system aspects	Overall fragmentation and even perforation of urban space
	Housing and commercial vacancies, abandoned buildings, brownfield sites
	Decay and blight, decline in the quality of built environment
	Underuse of technical infrastructure
	Thinning-out of the public infrastructure (closing down of kindergartens, schools and other facilities)
	Changes in land use

The characteristics presented in Table 2 cannot be considered a complete list as a detailed review of specific case studies reveals additional nuances or dimensions of the given processes. The population loss has been highlighted to demonstrate that it is often considered the main characteristic of urban shrinkage. Other characteristics normally appear after a period of continuous population loss.

It also needs to be mentioned that some of the given characteristics are overlapping, e.g., quality of life can include several aspects that have been mentioned as separate characteristics (like health and safety issues). If not overlapping, they are interlinked (similarly to causes) and can cause or reinforce each other in various ways. Martinez-Fernandez et al. (2012, p. 221) refer to this as a vicious circle that further "increases the chances of people moving out." The authors explain the statement by describing the tremendous effects shrinkage of the population and economic activity has on the physical and social environment as well as the quality and vitality of the affected city.

Another aspect that further contributes to the overall negative trends and needs to be highlighted here is the limited ability of local governments to counteract or deal with the negative consequences due to weakened financial conditions (Kühn & Fischer, 2011, p. 144). It makes cities more dependent on private and public money and forces them into an especially developer-friendly, neoliberal policy to attract investment (Rink, Haase & Bernt, 2009, p. 6). This process has a serious impact on urban planning and city development.

In conclusion, it is needed to point out that, although there are many characteristics of urban shrinkage, it is difficult to say whether some of them have specific geographic or causal origin (lack of research on this topic). Therefore, it is also difficult to specify ways in which urban shrinkage will manifest itself in different cities only based on the causal processes. In these cases, it is reasonable to include the majority of the identified characteristics as basis for research in the initial stages of the study and narrow them down as the work progresses.

2.1.4 Conceptual framework of urban shrinkage

As already mentioned before, urban shrinkage is seen as a process caused by global trends leading to population decline and having local consequences. The literature suggests to apply a differentiation between process, causes, and consequences in order to systematize or conceptualize this complex process (Großmann et al., 2008, p. 88). The examples of conceptual models or frameworks found in the literature seem to follow this pattern (e.g., Rink, Haase and Bernt, 2009; Martinez-Fernandez and Wu, 2009). However, in this study consequences are viewed as characteristics of the phenomenon. Therefore the conceptual framework is simplified (see Figure 1) and consists of only two components: causes (macro-processes on global, national or regional level) and the process (with specific characteristics on the city and local level).

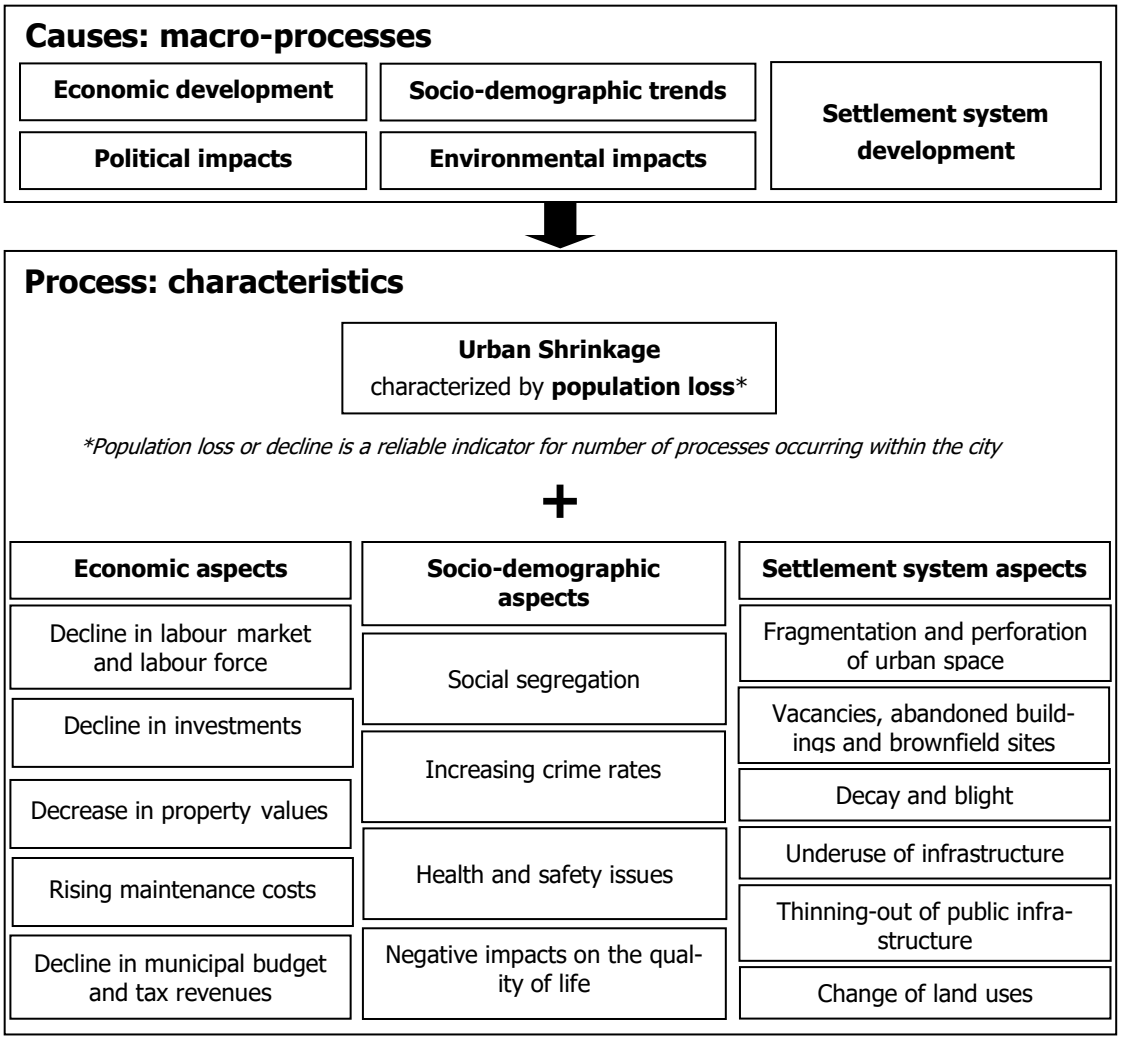

Figure 1 Conceptual framework of urban shrinkage (own illustration)

The causes of urban shrinkage are represented by the main processes reviewed in the previous chapters. The categories are kept the same like suggested by Rink, Haase & Bernt (2009) as they cover all main causal processes (and allows avoiding confusion by the introduction of new categories). The process of urban shrinkage positioned at the core of the framework is characterized by the main symptom or indicator – population

loss and a list of all other characteristics found in the literature. It has already been argued before that urban shrinkage cannot be equaled with population loss, but it is used as a reliable measure that captures or represents several negative trends experienced by shrinking cities (Beauregard, 2009, p. 61; Rink, Haase & Bernt, 2009, p. 5). The given characteristics provide an overview of negative impacts that are associated with urban shrinkage and allow to extend the understanding (as well as analysis) of shrinkage beyond population decline.

Additionally, there are other aspects that are important for the conceptualization of urban shrinkage but are not shown in the graphic representation of the framework in Figure 1. These aspects are mostly related to the temporal dimension of the process. First, the causes and the process can (and normally do) take place simultaneously. The reason being that urban shrinkage (as well as several macro-processes causing urban shrinkage) is a continuous process and can occur over a significantly long period (even several decades). Second, the characteristics of the process do not begin or appear at the same time. In fact, it would be possible to propose a sequence in which specific aspects of shrinkage are becoming evident in the city (e.g., residential vacancies normally become an issue only when population decline reaches a certain level, it is often followed by thinning-out of public infrastructure). Moreover, third, the process of urban shrinkage can start reinforcing itself – some effects of urban shrinkage can lead to further population decline which again creates more severe impacts on other aspects of urban life, and so forth.

2.1.5 Indicators of urban shrinkage

The proposed conceptual framework of urban shrinkage includes a wide spectrum of possible causes and characteristics of this complex phenomenon. When dealing with a specific case (city), the concept needs to be narrowed down to correspond to the actual situation under study which can be done through assessment of the proposed characteristics. An overview of commonly used indicators found in the literature is included in Table 3, Table 4, and Table 5 in order to provide a framework for such assessment.

Table 3 provides an overview of indicators related to socio-demographic aspects of urban shrinkage and includes the main indicator of this phenomenon – population decline. The literature suggests to analyze population loss or decline in absolute and relative terms over time and take into account such aspects as severity and persistence (Beauregard, 2009, pp. 63-65) of this process. Population decline is also one of those indicators that need to be analyzed relative to other spatial scales (Mykhnenko & Turok, 2007, p. 18), e.g., when assessing population decline on a district level, it is useful to compare the results to the city average. Other indicators related to socio-demographic aspects of urban shrinkage, however, might not be applicable for all cases as the trends can differ from one case to another and some indicators have provided mixed results in the past (e.g.,

the perception of neighborhood quality). Nevertheless, almost all can be used to distinguish some spatial patterns within the city if analyzed on different spatial scales.

Table 3 Overview of indicators related to socio-demographic aspects of urban shrinkage (own compilation from Beauregard, 2009; Rink, Haase & Bernt, 2009; Rink et al., 2010; Hollander, 2011)

Characteristics of urban shrinkage	Indicators	Assessment level	Comments
Population loss	Population decline (absolute and relative over time)	City/Local	Two aspects, severity and persistence, should be taken into account.
Social segregation	Composition of the residents and their social profile in different parts of the city	Local	It looks at unequal living conditions within the city leading to a concentration of certain social groups in specific areas.
Increasing crime rates	Number of recorded crimes	City/Local	Increased occurrence of a crime can indicate a concentration of certain social groups in an area as well as reduce the feeling of safety. Indicators related to health issues can include different pollution (air, soil, noise, etc.) levels.
Health and safety issues	Crime rates (number of crimes per 10,000 inhabitants)	City/Local	
Negative impacts on the quality of life	Perception of neighborhood quality	Local	There isn't a clear link between the residents' perception of their neighborhood and their actual quality of life; nevertheless, it has been used as an indicator in some studies with mixed results.

The indicators for identification of impacts on economic aspects of urban life are summarized in Table 4 (overleaf). Overall, this set of indicators needs to be assessed with caution as there are many other processes besides urban shrinkage that can influence the trends associated with the phenomenon. It is advisable to analyze the suggested trends in the larger context of economic processes taking place in the city, region or country to avoid drawing unfounded conclusions.

The only indicator that has comparatively clear and direct link to urban shrinkage (or more precisely population loss) is a decline in municipal budget and tax revenues. It stems from the fact that in many cases the main revenue for municipal budget comes from residents' income tax. Whenever a city starts losing population, these revenues also start declining.

Table 4 Overview of indicators related to economic aspects of urban shrinkage (own compilation from Rink, Haase & Bernt, 2009 and Rink et al., 2010)

Characteristics of urban shrinkage	Indicators	Assessment level	Comments
Decline in labor market and labor force	Number of persons employed	City/Local	Describes the economic activity level and profile of the area if assessed on the district level.
	Unemployment rate	City/Local	Can indicate a social segregation of employed (high or average income) or unemployed residents (low income or poor) within the city.
	Employment rate	City/Local	
	Number of offered jobs	City/Local	Describes the economic activity level and profile of the area if assessed on the district level.
	Out-migration of highly educated residents	City/Local	Can indicate a loss of attractiveness of districts or neighborhoods for highly educated residents.
Decline in investments	Investment per capita (from municipal budget and private investments)	City	On the district level, can demonstrate stakeholder interest in developing the area.
	Total amount of investment in EUR (from municipal budget and private investments)	City/Local	
	Number of implemented investment projects	City/Local	
Decrease in property values	Average price per m^2 for a housing unit	Local	Can indicate the attractiveness of the area as well as the availability of the housing units. Must be assessed on district or smaller scale as the housing stock would greatly differ from one place to other.
	Average rent per m^2 for a housing unit	Local	
Rising maintenance costs	Demand for technical infrastructures (water and wastewater, central heating, public transport, garbage disposal, etc.)	City/Local	Closely linked to the use of infrastructure, underused infrastructure (due to population loss) increases the maintenance costs which can affect expenses of the remaining residents.
	Expenses for maintenance of the existing technical infrastructures	City/Local	
Decline in municipal budget and tax revenues	Municipal expenditure and revenues in national currency and EUR	City	Limits municipality's ability to respond or deal with consequences of shrinkage.

Finally, Table 5 includes an overview of indicators of settlement system aspects associated with urban shrinkage. Essentially, all these indicators refer to reduction in the provision or use of different services in the city or decrease in quality of the built environment. In this context, the most often analyzed aspects in the literature are vacancy rates and thinning-out of public infrastructure.

Table 5 Overview of indicators related to settlement system aspects of urban shrinkage (own compilation from Rink, Haase & Bernt, 2009; Rink et al., 2010, and Legeby, 2009)

Characteristics of urban shrinkage	Indicators	Assessment level	Comments
Fragmentation and perforation of urban space	Spatial concentration of signs (characteristics) of urban shrinkage	City	Indicates the actual pattern of shrinkage within the city – which areas are affected the most
Vacancies, abandoned buildings, and brownfields	Housing vacancy rate	City/Local	The effects of high vacancy rates and brownfields are highly problematic, but it does not affect all parts of the city equally. In many cases, these areas also represent those with a high presence of low-income groups, etc.
	Commercial vacancy rate		
	Number and share of degraded/uninhabitable or demolished flats/houses		
	Number and share (of the area) of brownfields		
Decay and blight	Quality of the built environment	Local	Affects the attractiveness of the area as a place to live.
Underuse of infrastructure	Supply structure and demand for technical infrastructures (water and wastewater, central heating, public transport, garbage disposal, etc.)	City/Local	Indicates underpopulation of the area; directly contributes to the rising maintenance costs.
Thinning-out of public infrastructure	Number of kindergartens, schools and other facilities	Local	It indicates accessibility of as well as the necessity for the public infrastructure.
	Number of places/children in kindergartens and schools	Local	
	Closures of social infrastructure facilities (kindergartens, schools, etc.)	Local	
Change of land uses	Unused buildings/land, brownfields	City/Local	The change of land use is understood as an actual loss of use of components making up the built environment of the city, e.g., is residential building still residential if no one lives there?

When looking at the whole set of the described indicators, the majority are fairly straightforward and easily measurable, but there are few that require more complex assessment. For example, aspects like social segregation or fragmentation of urban space require spatial analysis of several indicators that are associated with these phenomena. In some cases, it would also be necessary to establish some sort of thresholds (e.g., in the case of population loss) that would separate shrinkage from other processes in the city. In other cases (e.g., thinning-out of social infrastructure), it is possible to find contradictory empirical evidence as to whether the indicator is characteristic to urban shrinkage or maybe only to a specific stage of shrinkage. Therefore, it is necessary to use several indicators from each category when possible and analyze the outcomes in the context of other related data.

Many of the proposed indicators are used in this study to analyze the existing situation in Riga (see Chapter 4.1) as well as to select study areas. However, the described set of indicators found in the literature is a poor basis for assessing the responses to urban shrinkage as it mainly focuses on the negative aspects of the phenomenon and provides

little options to identify other (parallel) aspects/processes in the city or specific urban areas. Therefore, it is necessary to introduce an additional concept that can be applied for assessing the potential responses to urban shrinkage.

2.2 Introducing resilience

As discussed before, there is a lack of an overall framework for the analysis of urban shrinkage and the ways this phenomenon is dealt with in a city (especially on the local level). Therefore, it is necessary to introduce an additional concept that can provide useful analytical framework encompassing potential responses of an urban system to shrinkage – a process that can be seen as a continuous and slowly occurring disturbance. Resilience is one such concept. According to literature, resilience helps accommodate change without catastrophic failure (Tasan-Kok, Stead & Lu, 2013, p. 48) and has the power to inspire useful analytical approaches (Carpenter et al., 2001, p. 767). For these reasons, it has been selected to provide the missing conceptual basis for this study. Moreover, Kotilainen et al. (2013) have already used resilience concept to analyze strategies to counter urban shrinkage which suggests that it has a potential for being used as an analytical framework in this context.

Overall, there are several views on resilience that have been established in different research fields. Some authors have attempted to structure them based on general characteristics and context (e.g., Folke, 2006, p. 259 or Maguire & Cartwright, 2008, pp. 4-5) or provide an overview of definitions (e.g., Norris et al., 2008, p. 129). Firstly, it is necessary to distinguish between two main approaches to resilience: general resilience and specified resilience. This is a suggestion found in relatively recent resilience literature by Folke et al. (2010) where the authors define general resilience as “resilience of any and all parts of a system to all kinds of shock, including novel ones” as opposed to the specified resilience which is focused on “some particular part of a system, related to a particular control variable, to one or more identified kinds of shocks.” The notion of specified resilience or “of what, to what” has also been suggested elsewhere. For example, Resilience Alliance (2010, p. 5) has included the requirement to define the resilience “of what, to what” as part of their assessment framework. Similarly, Carpenter et al. (2001, p. 767) state that to understand the resilience of the system, it is necessary to begin by clearly defining resilience in terms of what to what. It is also found in vulnerability discourse where Brooks (2003, p. 9) has stated that “it makes little sense to talk about a system’s vulnerability without specifying the hazard.” And although there are some constraints when dealing with specified resilience (Folke et al., 2010), it currently provides a better foundation for developing a conceptual framework of resilience that can be applied empirically (especially when the disturbance or the phenomenon under study is already known).

One specific advantage of dealing with specified resilience is that the system under study (of what) helps to narrow down the relevant resilience perspectives based on the charac-

teristics of the chosen system. As mentioned before, the focal system of this study is a city. And it is possible to use complexity and dynamic properties of an urban system to select those notions in resilience literature that are useful for the development of a conceptual framework. For example, Folke (2006, p. 259) gives an overview of three resilience concepts: engineering resilience which looks at a single stability domain with focus on recovery; ecological resilience which deals with multiple steady-states or equilibria with focus on buffer capacity, persistence, and robustness; and social-ecological resilience which focuses on integrated system feedback and dynamic interactions as well as adaptability and transformability (not to be confused with adaptation and transformation; see also Walker et al., 2004; Folke et al., 2010; Gunderson, 2003). As urban systems (the same way as ecosystems, societies or nations) cannot be characterized by one or even multiple states of equilibrium (Carpenter et al., 2001, p. 766), it becomes clear that social-ecological resilience is the only perspective suggested by Folke (2006) that could provide some basis for elaboration of more precise concept in the context of urban resilience.

Similarly, it is possible to specify which of the proposed resilience perspectives by Maguire & Cartwright (2008, pp. 4-5) are relevant to urban resilience discussion. The authors again propose three views on resilience: resilience as stability, resilience as recovery, and resilience as transformation. Without going into an in-depth explanation of each perspective, it has been stated by the authors that the dynamic nature of change is recognized only in the third perspective (resilience as transformation), thus adding another dimension to the existing discourse.

Finally, there are other useful notions in resilience literature that provide further contributions to establishing a conceptual framework for urban resilience. Those are views on community resilience (Norris et al., 2008), adaptation (e.g., Nelson et al., 2007; Gallopin, 2006 and others), discourse on vulnerability, and coupled human-environment systems (e.g., Turner et al., 2003; Brooks, 2003). Additionally, some insights into ‘slow burns’ are found in publications by Ultramari & Rezende (2007) and Pendall, Foster & Cowell (2008). In some ways, most (if not all) of the mentioned notions and perspectives are connected, however, on the whole, there is a lack of consistency and clarity of different understandings which prevents from giving a clear definition of resilience. Therefore, it is necessary to provide more detailed views on general directions of resilience discourse (adaptation and transformation) as well as the specific type of disturbance (slow burn), summarize the main findings and, based on that, develop a conceptual framework of urban resilience. Furthermore, the conceptual framework needs to be linked to the phenomenon under study (urban shrinkage) to obtain a concept that can be used as the basis for this study.

2.2.1 Resilience and adaptation

Resilience and adaptation is the most discussed resilience perspective in the available literature (especially if the literature on environmental and climate change are taken into account). However, it does not necessarily mean that there is a well-developed and clear approach linking adaptation and resilience. For example, there are authors that address adaptation (in resilience context) as a process (e.g., Norris et al., 2008), an outcome, action(s) or use several of these terms at the same time (Nelson et al., 2007; Smit & Wandel, 2006). When discussing the relation of adaptation to resilience, it has been suggested that adaptation is a demonstration of resilience (Maguire & Cartwright, 2008) or an outcome of it (Norris et al., 2008). Taking into account all these different views on adaptation and resilience, the objective of this chapter is to provide insights into the terminology and concepts of adaptation used in resilience discourse and draw conclusions that are relevant for urban resilience.

Norris et al. (2008, p. 130) deal with community resilience and define it as “a process linking a set of adaptive capacities to a positive trajectory of functioning and adaptation after a disturbance.” The authors emphasize that resilience is viewed as a process, adaptation as an outcome, and adaptive capacity as resources (with dynamic properties) enabling the process. To explain the suggested notions, Norris et al. (2008, p. 130) also provide a model (concept) of stress resistance and resilience over time which includes three possible trajectories after an occurrence of crisis: resistance, resilience, and vulnerability. Overall, this concept has some deficiencies, but it suggests several useful ideas for the conceptualization of resilience as a process. First, immediately after a disaster, the system moves into a state of transient (temporary) dysfunction. Third, if the system has sufficient adaptive capacity, the state of transient dysfunction is followed by a return to a positive functioning adapted to the altered environment (process – resilience, outcome – adaptation). Third, if the adaptive capacity is insufficient, the system moves from a state of transient dysfunction to a state of permanent dysfunction (process – vulnerability). All three notions are equally important for understanding the stages and options a complex system has when affected by a disturbance.

As already mentioned before, Norris et al. (2008, p. 132) define adaptation as an outcome of resilience process, but the authors fail to provide an actual definition of adaptation. They do, however, give a short description of the outcome referred to as post-event (after disturbance) functioning. The authors suggest that post-event functioning can be different (not necessarily better or superior regarding quality) than the pre-event functioning (Norris et al., 2008), but do not go into more detail as to the extent or degree of the difference leaving it as an open question.

Besides community resilience, resilience and adaptation are also discussed in the context of resilience thinking – a theoretical framework that has been developed to understand

what drives social-ecological systems (SESs), with a focus on resilience (Folke et al., 2010). There are three central aspects of this framework: resilience, adaptability, and transformability (Walker et al., 2004; Folke et al., 2010). This subchapter will focus on resilience and adaptability, but transformability will be introduced in the next one.

Walker et al. (2004) define resilience (in the context of SESs) as "the capacity of a system to absorb disturbance and reorganize while undergoing change so as to still retain essentially the same function, structure, identity, and feedbacks" (see also Berkes, Colding & Folke, 2003). This definition has been rephrased by Folke et al. (2010) as "the capacity of an SES to continually change and adapt yet remain within critical thresholds," which suggests that resilience is the capacity for change and adaptation. With that in mind, it is possible to say that those SESs that are resilient (have the capacity of resilience) can induce or undergo a process of adaptation. It also allows concluding that adaptation in the context of SESs can be seen as a process of change while retaining "the same function, structure, identity, and feedbacks" (Walker et al., 2004) or while remaining "within critical thresholds" (Folke et al., 2010). This notion is fundamental for further attempts to integrate the process of adaptation into the overall concept of resilience.

Another important aspect of the resilience discourse in the context of SESs is related to adaptability. It has been defined as "the capacity of actors in a system to influence resilience" and referred to as "a function of the social component" (Walker et al., 2004; Folke et al., 2010). The role of different actors is considered an important one due to their ability to ensure avoidance of an undesirable state or return to a desirable one, intentionally or unintentionally (Walker et al., 2004). This notion provides a clearer understanding of adaptation and allows to conclude that actors are crucial in ensuring the resilience of a system.

Furthermore, some attention needs to be paid to the ideas expressed in the literature on adaptation to environmental change or global change. To begin with, Nelson et al. (2007) provide a rather structured overview of terminology related to adaptation to environmental change while attempting to conceptualize the notion of adaptation and add some contributions from a resilience framework. The authors define adaptation as "the decision-making process and the set of actions undertaken to maintain the capacity to deal with future change or perturbations to a social-ecological system without undergoing significant changes in function, structural identity, or feedbacks of that system while maintaining the option to develop" (Nelson et al., 2007, p. 397). This definition can be referenced back to Walker et al. (2004) as it contains the same condition of not causing significant changes to an SES. Furthermore, Nelson et al. (2007, p. 398) provide a second definition for adaptation to environmental change (drawn from the adaptation literature): "an adjustment in ecological, social, or economic systems in response to observed or expected changes in environmental stimuli and their effects and impacts in

order to alleviate adverse impacts of change." Here the authors refer to adjustments that are needed to lessen undesirable impacts which are somewhat similar to the ideas expressed by Brooks (2003).

Brooks (2003) discusses adaptation in the context of vulnerability. His definition of adaptation is following: "adjustments in a system's behavior and characteristics that enhance its ability to cope with external stresses" (Brooks, 2003, p. 8). He also notes that adaptation does not occur instantaneously (similarly to Norris et al., 2008) because the system needs time to realize its adaptive capacity as adaptation. Adaptive capacity in his opinion is a representation of potential adaptation which encompasses all the processes that determine whether or not adaptation takes place, and to what extent – something he would prefer to term as adaptation likelihood (Brooks, 2003, p. 12). Unfortunately, his wide view on system's ability to adapt (and what constitutes this ability) is difficult to implement in practice or assess empirically, but it provides a good conceptual implication for understanding the role of cross-scale impacts in open systems.

Smit & Wandel (2006) review adaptation in the context of human dimensions of global change. The authors provide a general definition of adaptation (seemingly attempting to capture all aspects of the phenomena): "a process, action or outcome in a system (household, community, group, sector, region, country) in order for the system to better cope with, manage or adjust to some changing condition, stress, hazard, risk or opportunity" (Smit & Wandel, 2006, p. 282). They also differ between anticipatory or reactive adaptation (based on timing or time of occurrence) as well as autonomous or planned adaptation (based on the degree of spontaneity or way of occurrence). These categories can provide an additional framework for the analysis of specific cases.

To sum up, adaptation in resilience context is viewed as a system's adjustment(s) to change without significantly altering the system's functions, structures, feedbacks, and identity. The adaptation does not occur straight after an onset of disturbance because the system requires some time to realize its capacity for adaptation and transform it into actual adaptation. The actors or the social component of the system is considered to be the main facilitators of adaptation, whether it occurs intentionally or unintentionally. Moreover, depending on the timing and spontaneity of the adaptation, it can be anticipatory or reactive and autonomous or planned.

Unfortunately, the available literature on resilience and adaptation does not go much further into detail in clarifying the process or outcome of adaptation (and specifying the extent up to which something can be considered an adjustment). It is possibly necessary to be more specific about the overall research interest to provide clearer explanations. Nevertheless, the reviewed perspectives are a useful basis for the general understanding of resilience and adaptation that can be later adapted to more concrete needs or phenomena.

2.2.2 Resilience and transformation

Resilience and transformation provide an alternative view on system's response to a disturbance. It is not so well discussed in resilience literature as adaptation, but there are several interesting perspectives that need to be taken into account, especially in the context of urban systems.

As already mentioned before, Maguire & Cartwright (2008) have proposed a view on resilience as transformation. The authors attempt to discuss this approach in the context of social (community) resilience. Their contribution is the notion that a resilient community (system) is not just 'surviving' the change, but responding to it in creative ways that fundamentally transform the basis of the community (system) (Maguire & Cartwright, 2008, pp. 4-5). The conclusions by Folke (2006) further support this notion by describing transformation in the context of resilience with concepts of renewal, regeneration, and reorganization.

Unfortunately, Maguire & Cartwright (2008) fail to stay consistent with their view of resilience as transformation when developing the conceptual framework. The definition of resilience becomes 'fuzzy' when it is given in the following way: "the ability of a community to respond to a change adaptively" (Maguire & Cartwright, 2008, p. 4). The suggestion of 'responding adaptively' can be understood as adaptation to change regardless the authors' prior statements that resilience is more than that and involves transformation. This is a rather common problem in resilience literature when adaptation and transformation are intentionally or unintentionally used in the same way (sometimes switching between the terms), making it difficult to distinguish between the approaches.

Nelson et al. (2007) seem to be more consistent with their definition of transformation and how it differs from system adjustments (regardless that they view these both options as two types of adaptation). The authors define transformation as "a fundamental alteration of the nature of a system once the current ecological, social, or economic conditions become untenable or are undesirable" (Nelson et al., 2007, p. 397). It is thought to be "a process that creates a fundamentally new social-ecological system" (Nelson et al., 2007, p. 400). The suggested transformational change results from crossing system thresholds. The difficulty here is to "identify the precise location of thresholds" (Nelson et al., 2007, p. 402). Therefore, the authors attempt to give examples of both processes - transformation (e.g., a shift from agricultural to tourism-based economy – a fundamental functional change) and adjustments (e.g., implementation of new water demand management strategies) (Nelson et al., 2007, p. 400).

The authors that clearly distinguish between adaptation and transformation are Walker et al. (2004) and Folke et al. (2010). They use a term 'transformability' which refers to "fundamentally altering the nature of a system" (Walker et al., 2004). Transformability is defined as "the capacity to create a fundamentally new system when ecological,

economic, or social (including political) conditions make the existing system untenable" (Walker et al., 2004; Folke et al., 2010). It might seem rather controversial to include this aspect as part of the resilience discourse when the same authors have defined resilience as something retaining the system's function, structure, identity, and feedbacks (Walker et al., 2004). However, this confusion has been clarified later on by Folke et al. (2010) when suggesting that "the very dynamics between periods of abrupt and gradual change and the capacity to adapt and transform for persistence are at the core of the resilience of social-ecological systems." By stating that change is essential for SES's resilience, they incorporate adaptability and transformability as key ingredients of resilience thinking. Transformability, in this case, has the more radical role of bringing the SES back to positive functioning when it gets trapped in an undesirable state without an option for adaptation (Walker et al., 2004; Folke et al., 2010). Moreover, the transformational changes at smaller scales are viewed as a route for enabling resilience at larger scales (Folke et al., 2010) which adds a new perspective to resilience discourse.

Folke et al. (2010) also attempt to differentiate between two types of transformation: active and forced. The active transformation has been defined as "the deliberate initiation of a phased introduction of one or more new state variables (meaning fundamentally different function, structure or feedbacks) at lower scales while maintaining the resilience of the system at higher scales." The explanation of forced transformation is less clear as it only states that the changes are "not introduced deliberately by the actors" (Folke et al., 2010). The notion needs further development with regards to what conditions are relevant for identifying one or the other type of transformation before it can be conceptualized and applied for empirical research.

Besides the already described views on resilience and transformation, some authors simply express direct or indirect affirmation that transformation should be or is part of resilience. For example, Ultramari & Rezende (2007, p. 51) state that "the concept of resilience is connected to the ability to transform and retransform urban spaces." Gunderson (2003, p. 41), in his turn, speaks about novelty or generation of novelty which is "a unique property of social systems in response to uncertainty." In his opinion, novelty is the key in dealing with disturbances and opens the possibilities for humans to transform the future. Gallopin (2006) reviews the notion of transformation linking it with vulnerability. In this context, he suggests that vulnerability can be thought of as "a potential for a change or transformation of the system when confronted with a perturbation" (Gallopin, 2006, p. 294). Furthermore, he states that vulnerability can be positive in cases where change leads to a beneficial transformation and attempts to define the degree or depth of transformational change. Unfortunately, the result of the discussion does not provide a clearer view of transformation and the distinction between different types of changes.

In summary, it is clear that transformation is a key aspect of resilience discourse although its connection to resilience concept lacks consistency. Nevertheless, the more radical role

of transformation (as fundamental change or alteration of a system) suggests that there is an alternative view of possible system responses to change. However, it also creates a new difficulty – how to make a clear distinction between adaptation and transformation? The available literature provides limited insights into the topic; therefore it will be attempted to summarize the main differences in the description of the conceptual framework of urban resilience (see Chapter 2.2.4) and to give a clearer view on the subject when developing a joint concept of resilience to urban shrinkage.

2.2.3 Definition of a slow burn

Prior developing a conceptual framework of urban resilience, it is also necessary to define the type of disturbance this study is focusing on (to what). As the main phenomenon under study is urban shrinkage - a process occurring over several decades, the type of disturbance that needs to be reviewed is slow burn (not a disaster, hazard or sudden shock that is described in the majority of available resilience literature).

In the literature, it has been acknowledged that there are two types of disturbances (shocks and slow burns), but it has also been pointed out that the shocks are much better studied (Pendall, Foster & Cowell, 2008, p. 7). It creates a situation where available theoretical assumptions on slow burns are very few and provide limited insights into characteristics of such disturbances. Therefore, own understanding of slow burn that is based on both available characteristics of slow burn from resilience literature and specific features of urban shrinkage is provided at the end of this subchapter.

Overall, slow burns are referred to in the literature as slow-moving challenges, slow-moving crises (Pendall, Foster & Cowell, 2008), cumulative crises (Ultramari & Rezende, 2007), and slow creeping changes (Miller et al., 2010). Ultramari & Rezende (2007, p. 52) define slow burn as a disturbance occurring slowly, in a cumulative and less perceivable way. There are two important characteristics of slow burns that transpire from this definition – cumulative character of the slow burn and lack of perception by relevant actors. This aspect of not being perceived as a problem early on is what enables some processes to become disturbances that negatively impact the existing system.

Another aspect related to slow burn that has been suggested in the literature is their ability to create competition within a system. For example, Pendall, Foster & Cowell (2008, p. 8) in their perspective on regional resilience state that slow burns “tend to be corrosive of regional unity.” Müller (2011) refers to a similar notion and sees slow burns as creators of winners and losers. In his opinion, the shocks are bringing people together, but the slow burns are increasing competition for shifting resources (Müller, 2011, p. 4). This is consistent with what is known about urban shrinkage – it can create a pattern of growing and shrinking areas within a city if the phenomenon persists over a longer period.

What is not being explained in the available literature is some measure of time that can be used as a reference for defining a slow burn. It can differ from one phenomenon to another, but it is possible to define approximate timeframe when the phenomenon under study is already known. According to Beauregard (2009, pp. 64-65), population loss (main indicator of urban shrinkage) is a cause for alarm only when it persists for longer than a decade. It suggests that a process might become a disturbance that negatively affects the system if the decline or worsening of specific aspects related to the process in question lasts longer than a decade. Furthermore, in many cases, urban shrinkage continues for several decades which puts the potential duration of a slow burn anywhere above 20 years. The continuous impact of a slow burn on a system is also facilitated by the negative effects of a phenomenon that can persist even when the disturbance has supposedly ended (the decline or worsening of specific aspects associated with the disturbance have stopped). For example, Rink et al. (2010) have analyzed the case of Leipzig (Germany) where the population is no longer decreasing, but shrinkage continues to play a role in the city.

To sum up, slow burn is a disturbance that occurs cumulatively over a long period. A process cannot be considered a slow burn unless it persists longer than a decade, but the overall duration of the disturbance can be a lot longer. Due to its cumulative character, it also does not affect the whole system equally – it creates a competition within a system which can result in winning and losing parts of the system. Moreover, the negative impacts of a slow burn can persist even when the disturbance has stopped.

2.2.4 Conceptual framework of urban resilience to slow burn

It has been agreed by several authors that at the moment there is no single overall framework of urban resilience or even a common and widely used understanding of the term (e.g., Müller, 2011; Tasan-Kok, Stead & Lu, 2013; Gallopin, 2006). However, from the resilience perspectives reviewed in the previous subchapters, it is possible to draw some conclusions and suggestions for the conceptualization of resilience that can be used as the basis for developing own concept. First of all, the resilience perspectives that are relevant for analyzing urban systems and their processes are related to adaptation and transformation. Admittedly, the discussion on adaptation offers more insights, but the process of transformation cannot be regarded as less important simply due to a limited number of existing theoretical assumptions. Further challenges arise as the conceptual links between resilience, adaptation, and transformation depend on a specific perspective or views of particular authors. It creates a situation when it is difficult to give a clear definition of resilience including both adaptation and transformation. The only thing that can be said about resilience based on the reviewed literature is that it is something leading to a system that can function successfully after a disturbance or under stress. If this theoretical assumption is taken as the basis for the understanding of resilience, then adaptation

and transformation can be defined as two possible responses to a disturbance resulting in a system that functions successfully under the effect of the disturbance or after it. This notion also resonates with the understanding that social component (actors, stakeholders) plays a key role in facilitating resilience: if conceptualizing adaptation and transformation as responses, then actors or stakeholders would be the agents responsible for bringing these responses about when the existing situation demands it.

To move from the idea of a concept to a conceptual framework, some ideas how to conceptualize suggested responses were borrowed from Norris et al. (2008). The authors have developed their understanding of resilience as a process over time. They employ several stages for characterization of this process (that will be jointly referred to as trajectories of responses from now on): a system state before the disturbance (characterized by pre-event functioning and pre-event environment), a disturbance (sudden shock or slow burn), a state of transient (temporary) dysfunction (which occurs right after the disturbance as an immediate response), a process or a response to the disturbance, and an outcome (characterized by post-event functioning and post-event environment). Using these or similar stages (e.g., pre-event functioning and post-event functioning have been renamed pre-disturbance functioning and post-disturbance functioning), it is possible to propose trajectories of responses for adaptation and transformation as well as define an alternative situation when these responses are not brought about. It allows to review each trajectory of response separately and identify the main differences as has been illustrated in Figure 2.

The examples of trajectories in Figure 2 are based on a slow-occurring disturbance or slow burn that has been reviewed in Chapter 2.2.3. The notion of a disturbance occurring over time (continuously) suggests that its perception is different (as opposed to a sudden shock or disaster that has been used in the concept by Norris et al. (2008)). Ultramari & Rezende (2007, p. 52) point out that because of the cumulative character of the slow burn, it is less perceptive. It could be rephrased in a way that until a slow burn is causing some visible or considerably serious negative effects in the system, it is not perceived as a disturbance. For this particular reason, all examples in Figure 2 include a cumulative period between the start of the disturbance and the transition into a state of transient dysfunction. It is a period when the disturbance has already started (it is assumed that the beginning of the disturbance can be measured by several indicators), but the effects are not yet evident. It is possible that at the beginning of the disturbance any system can show some resistance, but as the conditions under which the system must function are slowly deteriorating, the system also starts declining till it reaches a state of transient dysfunction.

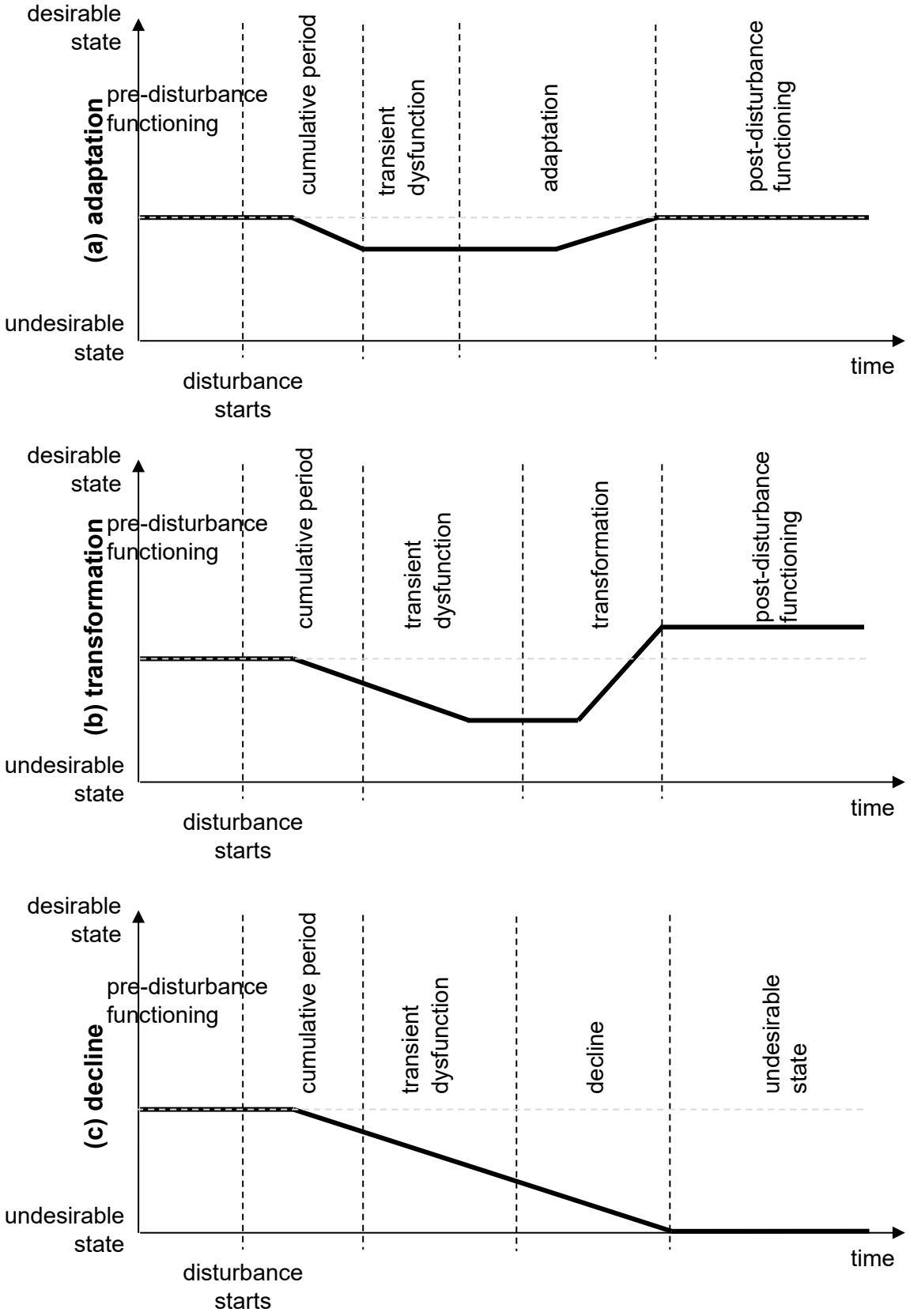

Figure 2 Examples of response trajectories for adaptation, transformation, and decline (own illustration)

The transitions between different stages are reflected by a system moving in the direction of desirable (more desirable) or undesirable (less desirable) state. It can be argued that it is not clear what is understood by the desirable or undesirable state of the system. The suggestions found in resilience literature are not very explicit on this subject. Nelson et al. (2007, p. 401) state that "social goals and desires serve as a point of comparison for evaluating the desirability of a given state." The authors continue by giving some examples that illustrate how different communities find particular states of ecological systems desirable suggesting that desirability of any system depends on a (somewhat subjective) perception by different actors. This aspect is very important for the empirical assessment of system responses as it needs to be linked to a specific group of actors whose perception of various system states must be used as a reference point. Alternatively, a general (and independent) understanding of specific desirability of the system under study must be described beforehand (based on theoretical or commonly known assumptions). However, for an understanding of the given examples, it is enough to view the desirable state as something positive and undesirable state as something negative. It does not mean that the system cannot already be in a very desirable or very undesirable state before the disturbance begins (and of course, that affects the actual response to the new disturbance). However, the examples demonstrate a relative view where the starting point is an average level of functioning in which the system wants to stay or would stay if the new or additional disturbance never occurred.

The first response trajectory in Figure 2 is adaptation (Figure 2 (a)). The specific characteristics of this trajectory include a relatively short period of temporary setback (transient dysfunction) when system realizes its potential for adaptation and transforms it into action (Norris et al., 2008, p. 132). During the period of transient dysfunction, the system does not necessarily move into an undesirable state, but it temporarily slides into a less desirable state than before. In Figure 2 (a), this stage has been visualized as rather stable, but it is possible that further minor decline occurs until a process of adaptation is initiated. The borderlines between the cumulative period, transient dysfunction, and adaptation are fuzzy. It is mostly due to the assumption that for the system to be able to realize its potential for adaptation, it cannot move too far away from its initial state. Hence, it is difficult to identify the actual points of transition. Moreover, as the disturbance continues parallel to all these response processes, it is possible that the signs of adaptation are not so evident straight after the initialization of the response.

The adaptation itself is understood here as system's adjustment(s) in response to a disturbance without significantly altering the system's functions, structures, feedbacks, and identity (a definition mostly based on Norris et al. (2008) and Walker et al. (2004)). It means that post-disturbance functioning can be slightly altered or different in comparison to the initial form of functioning to accommodate or counteract the impacts of the disturbance. However, the overall structural and functional identity of the system remains the

same. It puts some limitations on the activities that can be taken by the actors (intentionally or unintentionally) to implement the adjustments for the system to retain essentially the same functional and structural identity. Moreover, it also suggests that the system most likely will not be too far away from its initial functioning (for the adjustments to take effect) as mentioned before.

The second response trajectory is transformation (Figure 2 (b)). The outcome and stages of the response trajectory are considerably different from that of adaptation. It stems from a general view that transformation results in a fundamental alteration of the nature of a system (Nelson et al., 2007; Walker et al., 2004). Walker et al. (2004) also explain the preconditions for transformation in SESs: “[a system] trapped in an undesirable basin that is becoming so wide, and so deep that movement to a new basin or sufficient reconfiguration of the existing basin becomes extremely difficult.” Although the quote describes the preconditions using ecological terms, it is possible to understand the main idea. The authors suggest that a system must experience quite a severe period of decline and be in a state considerably more undesirable than before for processes like adaptation to become extremely difficult. In this situation, it requires a fundamental change (a new beginning) for it to return on a path of functioning successfully.

Taking into account all these aspects of transformation, the example of response trajectory (Figure 2 (b)) demonstrates that after the cumulative period (when the system starts to exhibit negative effects of the disturbance), the system moves into a state of a temporary setback. However, the movement towards an undesirable state does not stop and is not counteracted by adaptation due to lack of adaptive capacity. Therefore, the system continues to decline till it almost reaches the fully undesirable state (and it might happen over a considerably long period of time). At this point, if the system has a capacity for transformation, it undergoes fundamental changes in its structure and/or functioning to return closer to a desirable state. In this case, the post-disturbance functioning or the outcome might include a completely transformed or new functioning in the post-disturbance environment (changes in functional identity), a post-disturbance functioning in the transformed environment (changes in structural identity) or both (meaning a completely new identity). Moreover, the distance of the new system state from the desirable state does not need to be the same as before the disturbance, and it can continue to move towards more desirable state even after the transformative change has been fully implemented.

Overall, in the case of transformation, the end of the disturbance plays a little role and can occur even after the system has regained its positive functioning. It is assumed that the outcome already is developed for successful functioning under the conditions of disturbance.

The third response trajectory is decline (Figure 2 (c)), and it manifests when resilience process does not take place. The example of trajectory suggests a clear and continuous system's movement towards undesirable state till it reaches it. It is assumed that it can happen in a situation when the system does not have sufficient potential for adaptation or transformation or it was not realized in due time to counteract the negative impacts. Nevertheless, it cannot be ignored that whenever the disturbance ends, the system might find the capacity to transform and start moving again towards a more desirable state (adaptation, however, still would seem an unlikely option).

To sum it up, it has to be clarified that all three proposed trajectories of response are hypothetical as there is no empirical work to support the described ideas. Moreover, to affirm or deny any of the given trajectories it would require observing a system under conditions of continuous disturbance from the very beginning till the end of disturbance and beyond. All in all, it would require an enormous amount of time as many potential slow burns last for decades. Alternatively (and this is the approach that will be used for the basis of this work), it is possible to select a system or systems that have already been enduring a specific disturbance over a considerable period of time and attempt to identify the responses that are occurring under these conditions. It would require linking the suggested concept with the phenomenon under study to ensure further specification of the responses of each trajectory.

2.3 Forming a link: putting urban shrinkage into resilience concept

The suggested conceptual framework of urban resilience provides a general frame for analyzing processes in an urban environment and distinguishes two responses as part of resilience process – adaptation and transformation. These responses can be perceived as two options for dealing with a slow burn (cumulative crisis) in a comparatively successful way. However, the framework still needs to be linked with the specific disturbance under study – urban shrinkage.

Firstly, it is necessary to discuss the main stages of response trajectories relating them to urban shrinkage. Before the disturbance starts (at the stage of pre-disturbance functioning), an urban area has a certain functional and structural identity that can be characterized by some level of desirability (perceived differently by various actors). To avoid confusion, the state of an urban area at this stage will be regarded as reference ('normal') state.

The beginning of disturbance in case of urban shrinkage is mostly associated with the beginning of population or economic decline or both. This point in time can be identified by analyzing basic indicators used to measure these processes (e.g., population loss), and it serves as a borderline between the stage of pre-disturbance functioning and the cumulative period.

The cumulative period initially brings a relaxation of the pressure on urban infrastructure and environment (so the effects at the beginning of this stage are seen in a fairly positive light). However, as the negative trends of population and economic decline continue, other characteristics/impacts of urban shrinkage become evident (e.g., residential and commercial vacancies). At some point, the characteristics of urban shrinkage become more and more visible and start contributing to further loss of population and economic decline (beginning of the 'vicious circle'). It is the moment when the cumulative period ends, and the stage of transient dysfunction begins. In reality, it is difficult to identify the exact point in time when this transition happens as it requires monitoring number of indicators associated with urban shrinkage. However, it can be assumed that at the beginning of the stage of transient dysfunction, the urban area still should be relatively close to the reference ('normal') state (although, some movement in the direction of undesirable state should have occurred), and both adaptation and transformation could still take place.

The stage of transient dysfunction is the turning point when it becomes clear which type of response will take place in the specific urban area. If this stage is comparatively short and the urban area does not move too far away from its reference state, the process of adaptation can be initiated and successfully realized (given that the specific urban area has adequate preconditions for adaptation to occur). However, if the stage of transient dysfunction lasts longer, and the negative impacts of urban shrinkage become too severe (the urban area crosses a point when adaptation is possible and moves too far away from the reference state in the direction of undesirable state), the process of transformation becomes the only option (again given that the specific urban area has adequate preconditions for transformation to occur).

It is difficult to pinpoint the moment when either of the responses starts occurring as there is a difference between the beginning of actions that should lead to adaptation or transformation and the moment when these actions affect the existing situation. However, it is possible to provide a clearer understanding of actions that could be considered as leading to relevant response type.

As discussed before, adaptation is realized as adjustments to ensure the maintenance of relatively unchanged character of the urban area (functional and structural identity) and, in a way, tackle the negative effects of urban shrinkage (intentionally or unintentionally). For example, these could be all the actions related to improving the quality of the local surroundings (e.g., renewal of street paving, tidying up of open spaces/park areas) in a residential neighborhood to maintain its attractiveness to the residents. More resource demanding measures would be the renovation of derelict buildings (without changing their function) and similar initiatives. Interestingly, the majority of these activities can be realized by local actors.

In the case of transformation, comparatively fundamental changes (functional and/or structural) are being implemented. For example, abandoned residential buildings are renovated (or demolished) and transformed into commercial/office (or other) buildings. It is clear that for such process to take place, there have to be specific preconditions, e.g., unused buildings/space (which are seen as the negative impact of urban shrinkage) and interest from (most likely) external stakeholders that have resources for implementation of such projects. If the first precondition is largely an outcome of shrinkage and can occur almost anywhere in the city, the second can be a result of many other factors associated with the specific area.

The outcomes (post-disturbance functioning) of both processes (adaptation and transformation) are also very different. In the case of adaptation, the character of the urban area should be relatively similar to the reference state or pre-disturbance functioning (it would be possible to use the same understanding of desirability/undesirability in both stages). The main differences should be related to the quality of the urban environment. It can be assumed that if an adaptation process has been successfully implemented, then the quality of the urban area would have increased (but other aspects, e.g., number of inhabitants can remain at the post-shrinkage level meaning that it is not expected for the growth pattern to restart).

In the case of transformation, the outcome (post-disturbance functioning) is fundamentally different from the reference state or pre-disturbance functioning. In reality, it would require redefining the understanding of desirability/undesirability of the urban area as its character would have been significantly changed (possibly in a way that completely different group of actors would represent the main stakeholders). In this case, it also would not be possible to talk about, e.g., population loss as something negative as it would be a normal process if the area loses its residential function.

Although the outcomes of adaptation and transformation are different and follow separate trajectories, they should result in a positive functioning (a term used by Norris et al. (2008) to refer to outcomes of resilience process). In the context of resilience to urban shrinkage, the positive functioning can be defined as any use of the urban area by humans (including, areas that have been transformed into green spaces/parks and used for recreational purposes only) as opposed to complete abandonment (characteristic of decline). It might seem like a very broad definition, but the objective is to reflect the active use of the urban area regardless the outcome of the process (and transformation allows to implement relatively radical measures to keep the urban area in use).

Besides the understanding of how different stages of urban resilience to slow burn can be linked to the process of urban shrinkage, there are also unclear issues related to the temporal and spatial dimensions of the concept. The question of time (e.g., how long each stage lasts?) is the most challenging. It depends on the severity of shrinkage and

the size of the city or urban area. If a city loses 1-2% of its population per year, then it might take a long time (decades) to go through all the stages. However, in cases when urban shrinkage is caused, for example, by depletion of resources in a single-industry town, the out-migration of residents is a lot faster and more severe and might result in complete abandonment of the town in less than a decade. In this case, the cumulative period and the stage of transient dysfunction would be very short (possibly only 1-2 years if not less) and adaptation might not even be an option due to the character of shrinkage. If disregarding this kind of extreme cases, each stage would take a considerable amount of time. So far in the literature on urban shrinkage, it is possible to find little information on temporal dimension of the process. Beauregard (2009, pp. 64-65) suggests that "a population drop confined to a single decade is a temporary setback; losing residents over two decades is cause for alarm." That could mean that a cumulative period lasts for about a decade or a little bit longer; the second decade could already be a stage of transient dysfunction at the end of which the problem of shrinkage has become too serious to be ignored. Anything continuing beyond two decades could signal a need for changes in the form of adaptation or transformation. Unfortunately, there is a lack of any suggestions that could give an estimate how long a response stage should last, possibly due to many factors influencing the duration of adaptive and transformative processes (e.g., the size of the urban area, availability of resources, and so forth).

Besides the temporal dimension, there are also issues with the spatial dimension in the case of adaptive and transformative processes. The biggest challenge is to understand at which point local adaptive or transformative actions (at the level of building or land unit) can be viewed as representing the general trend of the whole area. Moreover, it can be possible that few very local transformative measures could be a sign of adaptation for the whole area making the borderline between both response types even more difficult to identify. Therefore, these aspects need to be treated with great care at the empirical stage of research work, especially when dealing with comparatively large (and diverse) urban areas.

To sum it all up, the proposed resilience concept can be linked to the process of urban shrinkage, and some characteristics of each stage of the response trajectories can be defined. Both response trajectories (adaptation and transformation) follow fairly similar pattern until the stage of transient dysfunction where first differences can be identified. Furthermore, it is possible to distinguish between different actions that are typical of each response type (by analyzing their character), but there is great unclarity about the preconditions that bring about these responses. Additionally, temporal and spatial dimensions of the response trajectories and processes pose some challenges; therefore both aspects of time and space need to be assessed with great caution (as in the case of the latter it can also affect the overall understanding of the response in the respective urban area).

2.4 Defining sources of resilience

As already concluded at the end of the previous subchapter, there is a lack of clarity about the preconditions that bring about adaptation or transformation as responses to urban shrinkage. However, when looking broader at resilience in general (without the specific focus on the phenomenon), it is possible to find suggestions in the literature that describe factors, components, and so forth that are thought to facilitate resilience. These have been redefined as sources of resilience for this study to include the preconditions of both responses under one heading and summarized in this chapter.

Defining sources of resilience or potential sources of resilience is not an easy task as they vary depending on the chosen resilience perspective as well as system and phenomenon under study. Moreover, aspects that can be perceived as sources of resilience are not necessarily defined as such in the literature. Authors tend to discuss dimensions (Magis, 2010; Amundsen, 2012; Gupta et al., 2010), factors (Olsson et al., 2006), components (Walker et al., 2006), concepts (Buikstra et al., 2010), determinants (Walker et al., 2006), attributes (Ross et al., 2010), characteristics (Kulig et al., 2005), adaptive capacities (Norris et al., 2008), indicators, and criteria (Ross et al., 2010; Gupta et al., 2010) of resilience, adaptation or transformation. Fortunately, it is possible to identify some overlaps among these aspects that help to narrow down those items that could be defined as sources of resilience.

Firstly, it is useful to look at the body of literature on community resilience which provides not only theoretical assumptions of what sources of resilience could be but also insights into results of (mostly qualitative) empirical studies of communities affected by different challenges. Magis (2010) has published one such empirical study with the aim to define dimensions of community resilience while focusing on forest-dependent communities and forest sustainability. The study does not refer to a specific phenomenon but employs an understanding of resilience as “the ability of a system to sustain itself through change via adaptation and occasional transformation” (Magis, 2010, p. 401). Based on literature and praxis review and empirical study involving different actors with varying levels of expertise, Magis (2010, pp. 410-412) proposes eight dimensions of resilience: community resources, development of community resources, engagement of community resources, active agents, collective action, strategic action, equity, and impact.

Aspects of community resilience were also researched by Buikstra et al. (2010) in an Australian rural community affected by chronic adversity through the experience of long-term restructuring and severe drought. In this case, resilience was associated with adaptation, and the specific context of disturbance also links it with the concept of a slow burn. Based on participatory action research that involved phase of interviews with different actors, Buikstra et al. (2010, p. 981) identified 11 resilience-prompting concepts: social networks and support, a positive outlook, learning, early experiences, environment

and lifestyle, infrastructure and support services, sense of purpose, diverse and innovative economy, embracing differences, beliefs, and (good) leadership. In their conclusions, the authors state that these concepts are consistent with characteristics of community resiliency identified in other studies, e.g., by Kulig et al. (2005). Indeed, the set of characteristics provided by Kulig et al. (2005) shows similar aspects of community resilience: access to resources and knowledge, ability to act interdependently, social support, ability to utilize networks, the presence of visionary leaders and supports, diverse economy, and others.

Amundsen (2012) builds on the studies of Magis (2010), Buikstra et al. (2010), and Ross et al. (2010) and applies them to the analysis of local responses to multiple challenges (including demographic decline) in one village in Northern Norway. The understanding of the resilience employed by the author is that of coping and adjusting which is linked to adaptation. The empirical study is based on a mix of qualitative methods including interviews with different actors and document analysis. As a result, the author proposes six dimensions of community resilience: community resources (and the development and engagement of these), community networks, institutions and services, people-place connections, active agents, and learning. These dimensions in a way summarize the majority of the aspects of community resilience described in other studies. Moreover, they also reflect notions expressed in the theoretical discussion on community resilience by Norris et al. (2008) where sets of adaptive capacities have been defined as resources of resilience. The most evident links can be made between adaptive capacities related to social capital and community competence where aspects like leadership and citizen participation, attachment to place, community action, and others have been mentioned (Norris et al., 2008, p. 136).

Besides community resilience, it is possible to find notions that can be associated with sources of resilience in the literature on the resilience of social-ecological systems (SESs). It becomes more important in those cases where the process of transformation or transformability is being addressed as it is not so dominant in the reviewed literature on community resilience. To begin with, Walker et al. (2006) have combined a set of propositions for understanding resilience in SESs, and these also include determinants and factors of adaptability and transformability. The propositions are based on results of two workshops where case studies in a wide range of regions around the world were compared. As already mentioned in the previous theoretical chapters, adaptability in the context of the resilience of SESs means “capacity of the actors in a system to influence resilience” (Walker et al., 2004). According to the propositions, the components of this capacity are (1) absolute and relative amounts of all forms of capitals and (2) the system of institutions and governance. In the context of latter, additional emphasis has been put on three aspects: leadership, social networks, and trust. Moreover, learning is mentioned

as another key component of adaptability and linked with adaptive management (Walker et al., 2006).

When it comes to transformability ("the capacity to create a fundamentally new system" (Walker et al., 2004)), Walker et al. (2006) propose several determinants: incentives, awareness, experimentation, reserves, and governance. Unfortunately, the authors provide little further explanations of these aspects, but it is clear that experimentation or willingness to experiment is linked to innovation and reserves or assets are associated with available capitals or resources. Olsson et al. (2006) inspired by this proposition on transformability aimed to deepen the understanding of transformation in the context of adaptive governance by reviewing 5 case studies. The authors define 3 phases of transformation: preparation for change, transition (to adaptive governance) and building the resilience of the new state, but they focus only on first two phases in the study. They further specify three key factors for analysis of first (preparation) phase: building knowledge, networking, and leadership. Moreover, they also give some suggestions as to what could be the key factors for the transition phase: flexibility and the ability to improvise, leadership, diversity, and timing. However, as the conclusions, Olsson et al. (2006) define two critical factors of SES's transformability: the emergence of shadow networks and the essential role of leadership.

Wilson et al. (2013), in their turn, attempt to differentiate between attributes of SESs that lead to adaptive maintenance (resilience) or transformation. Their main conclusion after analyzing two rural towns in Australia is that there are some common as well as differing attributes related to these trajectories or processes. Among common attributes, there are few that have already been mentioned before: leadership, trust, positive identification with existing community, and amount of capitals. Attributes for transformation include such aspects as an incentive to change, networks linked to external nodes, groups driving change, latent capitals, flexibility in institutions as well as high innovation, capacity to identify new vision/goal, and dissatisfaction with status quo. Contrary to these, attributes for adaptive maintenance are formed by networks strongly linked to internal nodes, rigidity in institution ideas and structure, satisfaction with status quo, and other aspects (Wilson et al., 2013). Regardless contrasts between these sets of attributes, it is possible to identify some general aspects that play a role in both processes: networks, capitals (or resources), institutions, and satisfaction level with status quo. Besides these four factors, it is interesting to see that leadership is a common attribute for both processes and in the case of transformation, it is supported by the capacity for vision (similarly to visionary leadership or good leadership discussed under the topic of community resilience). Also, the attribute referring to groups driving change that are seen as necessary for transformation can be linked back to community resilience and one of the dimensions defined by Amundsen (2012) – active agents.

To add yet another dimension to the discourse on potential sources of resilience, it is also useful to look at aspects of institutions that enable resilience. In this context, Gupta et al. (2010) have published a comprehensive study on characteristics of institutions that stimulate the capacity of society to adapt to climate change. The authors define institutions as systems of rules, decision-making procedures, and programs (expanding on the narrow understanding of institutions as organizations; Gupta et al., 2010, p. 460) and propose six dimensions (and 22 criteria) of adaptive capacity to assess institutions. These dimensions include variety, learning capacity, room for autonomous change, leadership, resources, and fair governance (Gupta et al., 2010, p. 462). Each dimension is further characterized by several criteria which help to understand specific aspects of interest behind each dimension. Without going into more detail, it is possible to conclude that such aspects as learning, leadership, and resources are also important in institutional context.

To sum everything up, based on the general overview of different aspects of resilience facilitating adaptation, transformation or both processes, it is possible to narrow down those aspects that play a greater role across several studies (as well as systems, phenomena and so forth). It provides a basis that allows defining them in a way that is relevant to urban context and analysis of a slowly occurring disturbance or a slow burn. Firstly, there are four aspects that have transpired from the majority of the reviewed studies: *(1) leadership, (2) networks, (3) resources (or capitals), and (4) learning*.

Leadership

Leadership is important for both adaptation and transformation and needs to be viewed together with the notion of active agents. Leaders and active agents are defined as key individuals “who have the ability to act or make things happen” (Amundsen, 2012). The difference is that not all active agents take on a leadership role (formal or informal), but they have a capacity to make an impact or influence the existing situation through their actions (Amundsen, 2012; Magis, 2010). Therefore, the presence of such key individuals (leaders and active agents) can be seen as a source of resilience. Regardless this rather straightforward conclusion, some authors suggest that not all leadership is facilitating resilience, but only good leadership (Buikstra et al., 2010). Others refer to the presence of visionary leaders as characteristic of resilience (Kulig et al., 2005). Moreover, Olsson et al. (2006) refer to transformational leadership and proposes a set of leader’s abilities for successful transformation which suggests that there might be differences between types of leadership necessary for adaptation or transformation. In fact, Gupta et al. (2010, p. 462) define three leadership types as criteria for institutions to enable adaptive capacity of society: visionary (leaders with long-term vision and capacity for reforms), entrepreneurial (leaders that stimulate actions and undertakings), and collaborative (leaders who encourage collaboration among actors). It can be hypothesized that one type of leadership is more important for transformation and other for adaptation. There could also be differences in the importance of different types of leadership on various

spatial scales (e.g., visionary leadership might be more important on the city level whereas entrepreneurial leadership would have a greater and more immediate impact on a local (district or neighborhood) level). However, the reviewed literature provides little or no further insights into these considerations. In this light, leadership or presence of leaders and active agents can be defined in general as “a driver for change” (Gupta et al., 2010, p. 463) that is necessary for adaptation and transformation to take place on any spatial scale regardless the context or system under study.

Networks

Networks (presence of networks or ability to use networks) has also been proposed as an important factor for adaptation and transformation across different systems and spatial scales. Some authors refer to specific types of networks – community networks (Amundsen, 2012; Ross et al., 2010), social networks (Buikstra et al., 2010; Walker et al., 2006), and shadow networks (Olsson et al., 2006). However, when looking at the actual definitions of these networks, it is possible to identify some similarities as well as scale specific properties. Amundsen (2012) defines community networks as family and neighborhood networks (community groups and informal groupings) which constitute a support network that active agents and leaders can draw on to realize their ideas or actions. Buikstra et al. (2010, pp. 981-982) propose a similar notion on social networks within a community that are formed by family, friends, and networks based on shared cultural, economic and recreational interests, and are considered important in times of adversity. Ross et al. (2010, p. 109) refer to community networks as processes and activities that build and support people and groups in a place. The authors also provide monitoring criteria that include ties to family, neighbors and community groups as well as add a new dimension of collaboration between public, private, community, and university sector stakeholders. All these definitions and aspects of networks primarily refer to cooperation and support among local actors (that is formed through different social ties) to help overcome challenges. This type of support might be sufficient to prompt adaptation and also in some cases transformation on a community/local scale. However, Ross et al. (2010) already introduce a wider range of stakeholders that goes beyond a local level as the authors are dealing with social resilience on a regional scale. Involvement of variety of actors across levels and sectors has also been introduced as criteria for adaptive capacity of institutions by Gupta et al. (2010, p. 462) which indicates that networks contributing to resilience can go beyond the local level and social ties. Moreover, Olsson et al. (2006) emphasize facilitation of information flows and the creation of nodes of expertise that can be drawn upon in critical times as aspects of shadow networks (one of the critical factors for transformability of SESs).

To sum it up, it is clear that networks (presence or access to networks) are an important source of resilience as it can function as a tool for provision of all kinds of support in times of adversity as well as ensure information flows between different actors across scales

and sectors. It is also safe to say that networks are managed by leaders and active agents whose role is to draw on these networks in times of need to make things happen. Furthermore, it can be assumed that networks vary on different spatial scales and might include different actors for implementation of adaptive or transformative actions. More precisely, the actions or ideas that are realized can be facilitated or constrained by the size and diversity of the available network. For example, actions that can be seen as adaptation on a local scale quite often can be implemented through a localized network. Any type of transformative action even on a local scale will most likely require cross-scale and cross-sectoral cooperation. Cross-scale and cross-sectoral cooperation will become even more important on higher spatial scales (e.g., city level) as the actions for both adaptation and transformation will have a greater scope and impact and involve more stakeholders. Therefore, when analyzing networks as a source of resilience, it is useful to look at the diversity of actors, their ties (informal or formal), the spatial scale of functioning, and (potential) contribution towards adaptive or transformative action in response to specific disturbance.

Resources

Availability of or access to resources (or capitals) more often than not influence actors' ability to realize actions in response to disturbance; therefore it can be considered another important source of resilience for both adaptation and transformation. However, there is a lack of consensus on what classification of resources or capitals to apply for analysis or which resources are more crucial for resilience in an urban context. The suggestions found in community resilience literature refer to fairly similar sets of capitals or resources, e.g., Magis (2010, pp. 406-407) employs natural, human, cultural, social, financial/built, and political capitals whereas Amundsen (2012) refers to human, social, natural, political, cultural, and economic resources. Besides the types of resources/capitals, the authors tend to emphasize the development and more importantly engagement of these resources for community action as important dimensions of resilience.

In the literature on the resilience of SESs, Walker et al. (2006) talk about capitals as determinants for adaptability. The authors state that the absolute and relative amounts of all forms of capitals determine adaptability. They refer to such capitals as social, human, natural, manufactured, and built capitals. Furthermore, the authors mention reserves and highly convertible assets like human, natural, and built capital as determinants for transformability. It suggests that there might be different preconditions regarding necessary resources for actors to be able to carry out adaptive or transformative actions.

In any case, availability or (immediate) access to existing resources (regardless the type of resources or spatial scale of interest) is only one aspect to be considered when approaching the topic of resources as a source of resilience. Another aspect is the actors' ability to gain access to more resources for reaching their objectives or realization of the

intended actions. This aspect is linked to the presence of leaders and active agents who can use existing networks to gain access to potentially available resources. It is something similar to what has been referred to as a latent capital by Wilson et al. (2013). Although the authors talk about latent capital as unused built, natural, and human capital within the respective community, this notion can also be extended to external sources of resources that can be accessed in times of need and with the relevant skill set of leaders and active agents. Therefore, when assessing the availability of resources as a source of resilience, the attention needs to be paid not only to the immediately available resources but also to the potentially available resources.

Learning

Learning has been referred to as a key component of resilience by several authors (e.g., Amundsen 2012; Walker et al., 2006) in different contexts. The authors dealing with community resilience define learning as learning from experiences and acting on this knowledge (Amundsen, 2012) as well as the need for an ongoing formal and informal learning and knowledge acquisition (Buikstra et al., 2010, p. 983). Amundsen (2012) also states that learning is the key to responding to future challenges and may prove to be particularly relevant in adapting to challenges which depend on processes of multiple factors at interlinked scales. Some participants of the study carried out by Buikstra et al. (2010, p. 983) even suggested that community resilience is the result of community's ability to learn from adversity which indicates that learning is an important source of resilience in community resilience. Furthermore, Walker et al. (2006) refer to learning as a key component of adaptability in the context of the resilience of SESs and emphasize experimentation and innovation as necessary attributes to develop and test knowledge and understanding for coping with change and uncertainty. The authors mention a willingness to experiment as one of the determinants of transformability which suggests that the process of transformation also involves some form of learning.

Ross et al. (2010, p. 104) state that learning is also an important factor for social resilience on a regional scale. The authors link learning with skills and knowledge in a cyclic process where use and creation of knowledge lead to improvement of skills and learning which in turn leads to continuous improvement of existing knowledge base. From the perspective of institutional resilience, Gupta et al. (2010, p. 462) define learning or learning capacity as one of the dimensions of adaptive capacity. Besides the previously mentioned notions associated with learning in other discourses, the authors add concepts of trust and memory to the understanding of learning capacity. To sum it up, learning has been indicated as a significant source of resilience across several resilience discourses, and it is possible to define learning through a variety of notions and understandings. However, to avoid overlaps with other sources of resilience (e.g., skills and knowledge can be seen as characteristics of human resources and trust is an equally important factor for networking), learning will be defined as learning from experiences, experimenta-

tion, and innovation as well as formal and informal learning and knowledge acquisition by actors.

Besides these four dominant sources of resilience, there are also other aspects that can be seen as contributing to resilience, and that cannot be directly attributed to one of the four already described sources of resilience. Those can be roughly summarized as three additional aspects: *(1) people-place connections; (2) common cause; and (3) system of institutions and governance*.

People-place connections

People-place connection, also described as an attachment to place by Norris et al. (2008) and people-place relationships by Ross et al. (2010), is mostly related to community resilience which suggests that it is an important source of resilience on a local scale. Norris et al. (2008, p. 139) links people-place connection with the sense of community but emphasizes that it is a connection with one's neighborhood or city which is something slightly different than a connection with the specific people living in the particular neighborhood or city. Perkins et al. (2002, p. 41) give a similar definition of place attachment – it is an "emotional bond, developed over time, to particular geographic spaces." Amundsen (2012) suggests that people-place connections play a role in motivating active agents to act. It is a notion also supported by Norris et al. (2008, p. 139) who states that place attachment is a driver for citizens to revitalize their neighborhood. Perkins et al. (2002, p. 41) further confirm this statement by saying that place attachment motivates residents to stay and protect what they care about most in their neighborhoods and to invest time, energy, and money to improve that with which they are dissatisfied. Moreover, although people-place connection has a relatively clear link to resilience on a local (district or neighborhood) level, it cannot undoubtedly be assumed that it has no impact on the city level as well.

Common cause

Common cause can be seen as another potential source of resilience considering that related notions have been identified as drivers for change in several communities. For example, the results of the empirical study by Buikstra et al. (2010) revealed that positive outlook and a sense of purpose are two separate concepts contributing to resilience. Also, the research by Wilson et al. (2013) shows that the capacity to identify new vision or goal is one of the attributes of SESs facilitating transformation. At first glance, these might seem as distinct and unrelated concepts to be put under one heading, but essentially they function similarly by bringing the community and/or different actors together for joint action.

To begin with, according to Buikstra et al. (2010, p. 982) having a positive outlook was seen as a crucial component of both individual and community resilience within their study. It was linked with notions of determination, perseverance, and ability to bounce

back from adversity. Having a shared sense of purpose (in times of crisis) was also reported as an important element of resilience but with closer links to individual resilience than community resilience (Buikstra et al., 2010, p. 985). Nevertheless, these concepts in a way express the similar idea as working towards certain positive outlook can also be seen as a purpose. It is also worth mentioning a sense of community or building a sense of community where mutual concerns and shared values play a role (Norris et al., 2008; Perkins et al., 2002).

Wilson et al. (2013), in their turn, focus on community's capacity to envision alternative future scenarios that would be different from the existing status quo. They use this capacity as an indicator of potentially transformative change in Australian rural towns and were able to come to a conclusion that capacity to identify new visions or goals can be linked to transformation. Essentially, this is a rather general statement, but it shows that common cause in one or the other form can facilitate both adaptation and transformation.

System of institutions and governance

The system of institutions and governance or institutions and governance as separate concepts have been referred to in the context of community resilience (Amundsen, 2012), social resilience (Ross et al., 2010), and resilience of SESs (Walker et al., 2006). Amundsen (2012) talks about institutions and services as one of the dimensions of resilience and defines institutions as formal and informal organizations as well as rules in use, norms, and values. In this context, it is important to point out that the author dealt with a case study in a rural area where institutions such as schools, post office, and so forth have a very significant role and a high level of importance. That does not necessarily mean that presence of some specific formal or informal organizations is not important also in the urban context; it just might be a different type of organizations that need to be considered.

Ross et al. (2010, p. 109) focus on engaged governance as an indicator of social resilience. The authors define it as a collaborative process for decision-making which includes partnerships, planning, and supportive and creative institutions. The list of associated criteria allows to get a better understanding of their intended meaning of engaged governance and clarifies specific aspects of interest: rules and norms guiding the governance process, participation and involvement of non-government actors in local governance and decision-making processes, impact or influence of non-government actors (especially community) on decision-making process, and trust in government.

In the context of the resilience of SESs, Walker et al. (2006) provide fewer details on this subject. The authors suggest that the system of institutions and governance is a primary determinant of adaptability, and governance is also a determinant of transformability. However, they do not provide more insights. Some contributions towards this topic can be found in the study by Wilson et al. (2013) where rigidity in institution ideas and structure

are associated with adaptive maintenance whereas flexibility in institutions – with transformation.

Just from these examples, it can be seen that the system of institutions and governance include a wide variety of aspects, but it is not possible to unanimously define it as a source of resilience. In fact, the suggestions in the literature more often refer to some specific characteristics of this dimension as facilitators of resilience. Overall, it is possible to derive some aspects for assessment of the system of institutions and governance in the urban context: presence of formal and informal organizations taking action in response to a disturbance, rules, norms and values guiding these organizations and their actions, level of participation, involvement and influence of non-government actors in decision-making process.

In conclusion, it has to be said that there are seven aspects that can be identified as sources of resilience in the available literature: leadership, networks, resources, learning, people-place connections, common cause, and the system of institutions and governance. These will be used as theoretical assumptions to help structure the analysis of resilience to urban shrinkage in the context of Riga.

2.5 Focusing the research questions

As already explained in the introduction of this work, the theoretical background helped to focus and clarify the research questions and suggest relevant theoretical assumptions for result analysis. Essentially, the theoretical assumptions are not treated as hypotheses, but as summarized notions from the literature that are used to structure and guide the research process and analysis of results. This kind of approach also provides room for new findings that are not reflected in the existing literature.

The first research question (**RQ1**) is following: **What are responses to urban shrinkage in Riga?** It aims at narrowing the knowledge gap on understanding the different responses to urban shrinkage within a city and in Riga in particular that results in the pattern of ‘winners’ and ‘losers’ on a local level. The research question is linked to the proposed theoretical concept of resilience to urban shrinkage which suggests three types of potential responses: adaptation, transformation, and decline. These potential responses are used as main theoretical assumptions in researching the situation in Riga:

- Some parts of the city are undergoing a process of **adaptation** in response to urban shrinkage. It is realized as adjustments to the existing situation in the city that ensures the maintenance of the urban area relatively unchanged (functionally and structurally) and helps to tackle the negative impacts of shrinkage. This response is aimed at stabilizing the undesirable trends associated with urban shrinkage (population loss, degradation of the urban environment, and others) and work on improvements in the quality of urban life. It can be a continuous process taking

place parallel to urban shrinkage. Moreover, it can occur intentionally or unintentionally.

- Other parts of the city can be undergoing a process of **transformation** in response to urban shrinkage. This process is characterized by fundamental changes (functional and structural) in the urban area. It uses the opportunities provided by the shrinkage (e.g., unused or abandoned urban territories) and is aimed at creating a new type of urban environment.
- In those parts of the city where neither adaptation nor transformation takes place, the urban areas are subjected to the process of **decline**. It is characterized by continuous deterioration of different aspects of urban life associated with urban shrinkage.

In the process of identification and analysis of these responses, the main attention is focused on actions carried out by different actors in response to urban shrinkage or specific aspects of the phenomenon. The character of these actions allows deducting which responses are taking place in Riga as well as to identify other types of responses that are emerging from the empirical study.

The second research question is aimed at understanding the determinants of the responses to urban shrinkage in Riga. It was decided to focus on the determinants of adaptation and transformation to narrow the research focus and stay within the boundaries of resilience concept. It also allowed reconceptualizing the determinants as sources of resilience. Hence the second research question (**RQ2**) is following: **What are sources of resilience to urban shrinkage in Riga?** The analysis of answers to this question is structured around seven aspects that have been identified in the literature and proposed here as theoretical assumptions reflecting sources of resilience known to play a role in facilitating adaptation and transformation:

- Leadership (presence of leaders and active agents);
- Networks (support networks among different actors, cooperation);
- Resources (availability of different resources, ability to gain access to resources);
- Learning (learning from experience, formal and informal learning, experimentation and innovation);
- People-place connections (attachment to place);
- Common cause (purpose, positive outlook, vision);
- The system of institutions and governance (presence of formal and informal organizations, rules, norms, and values guiding these organizations and their actions, level of participation, involvement, and influence of non-government actors in the decision-making process).

The analysis of the sources of resilience in Riga is also focused on actions carried out by different actors. However, it goes beyond the mere analysis of the character of these actions and focuses on different preconditions that allowed these actions to take place (or in some cases on conditions that are preventing or hindering the implementation of these actions). The proposed sources of resilience include a variety of aspects and are not restricted to the given initial interpretations.

3 Research design and methodology

For finding answers to the proposed research questions, it was necessary to devise a suitable research design taking into account the complexity of processes under study, availability of data and information, time constraints, and other aspects. Special attention also needed to be paid to the selection of study areas in Riga to ensure that the aims of the work can be achieved. These and other aspects, as well as applied methods, are described in this chapter to provide a reader with an outline of the empirical study and a possibility to follow the steps that have been taken to reach the results. It has been done to ensure transparency and to reflect the evolution of the research process throughout the study.

Chapter 3.1 explains the overall research design, including justification for the use of single case study approach, description of the research process, and the main steps of the empirical study. It has also been summarized in Figure 3, providing an overview of the applied methods and their relation to the research questions. Chapters 3.2 and 3.3 are focused on explaining the specific approaches and methods used for the selection of the study areas in Riga and the data collection and analysis.

3.1 Overall research design

The main theoretical concept and the research questions were crucial for deciding on a specific research design. Finding out what are the responses to urban shrinkage in Riga and what are sources of resilience to urban shrinkage in Riga required to obtain a comprehensive understanding of the processes occurring in the city. This need for in-depth research of urban processes led to choosing a mixed method strategy for designing the research process (see Figure 3). According to Axinn and Pearce (2006), such strategy is valuable for “producing a comprehensive empirical record about a topic.” It also allowed not only to build on strengths of the chosen individual methods, but also to fill the knowledge and information gaps through data collection from various sources.

Although a mixed-method approach was selected, the methods chosen for the selection of study areas and data collection are mostly qualitative (except the secondary data analysis). Two main reasons dictated the preference for applying mainly qualitative methods for selection of the study areas. First, there was a lack of previous research on urban shrinkage in Riga when the research work was started. Second, there was a lack of consistent and relevant secondary data that would allow choosing suitable study areas for finding answers to the proposed research questions. Similar considerations were at play also when deciding on methodological approaches for further data collection. After the selection of the study areas, the research took on exploratory nature which is more consistent with qualitative research. Although guided by a theoretical concept and initial theoretical assumptions, it was not strongly grounded in a specific theory that would allow

defining a limited number of known variables and application of quantitative methods for data gathering and analysis. Finally, the focus on different actors as main agents bringing about responses to urban shrinkage in Riga limited how necessary data and information can be collected resulting in a stronger focus on qualitative methods.

The overall research design is also based on a case study approach. According to Yin (2009, p. 18), such approach is used when there is a need to obtain an in-depth understanding of a real-life phenomenon within a specific context. The phenomenon under study in this research work is urban shrinkage which is both a real-life occurrence in urban settlements and closely linked to its context. Moreover, due to the complexity and case-specific character of the main phenomenon, the preference was given to a single case study approach.

Choosing one case (Riga) also allowed to focus on several embedded units (study areas or districts) that are parts of the same system and are affected by the same macro-processes. It helped to reduce the complexity of analysis as it was not necessary to consider additional contextual variables that could differ from one city to another. Additionally, it made it easier to ensure that the available data and information taken from secondary sources is consistent across all embedded units.

The case of Riga was selected early in the research process. Overall, there are many cities in Europe that have suffered and are suffering from population loss. For example, Mykhnenko and Turok (2007) have analyzed long-term population trajectories of Eastern European cities between 1960 and 2005. In their study, the authors have identified 74 cities that have been losing population (having negative growth below the national average) between 1990 and 2005 and 74 cities characterized by medium-term population decline between 1960 and 2005, including Riga. However, Mykhnenko and Turok (2007, p. 34) also suggested that "the incessant downward growth rate trajectory appears to have halted since around 2000, and even recovered very slightly overall," which is not the case for Riga. In Riga, the population loss has continued uninterrupted, and it reached 29.23% in 2014. The comparison with more recent population trends in Tallinn and Vilnius (the capital cities of neighboring countries - Estonia and Lithuania, respectively) revealed that Riga is the only one from the three capital cities of Baltic States that has not seen a turn for better since the 2000s and where stabilization of population has not occurred[1]. This and other identifiable characteristics of urban shrinkage (e.g., abandoned and degraded buildings) led to a situation when it was possible to deduct that the process of shrinkage in Riga has reached the response stage (according to the conceptual framework of

[1] It was not possible to conduct comparison among cities in a larger region due to time constraints and limited data availability

resilience to urban shrinkage described in Chapter 2.3). It would allow conducting a study identifying and analyzing these responses (RQ1) and the drivers behind them (RQ2).

The selection of embedded units or study areas was more complex and challenging process due to the necessity to ensure the compliance of these units with the proposed theoretical concept. A careful and rather time consuming methodological approach was devised for the selection of study areas (as can be seen in Figure 3) taking into account the limited availability of data and information as well as the complexity of the processes of interest. A detailed description of the specific methodology used in selecting the embedded units is described in Chapter 3.2, but the results and rationale of the selection process are explained in Chapter 4.3.

Regardless how carefully the embedded units have been selected, there is one major pitfall that needs to be taken into account when using a single embedded case study approach. According to Yin (2009, p. 52), the case study should not focus only on the subunit level and fail to return to the larger unit of analysis when discussing the results. Therefore, the data collection and analysis was focusing on both the subunits (districts) and the larger unit (Riga) throughout the research process to avoid the occurrence of such situation. It was done by including both spatial scales of interest when exploring the context of processes under study and when analyzing actions and responses of different actors. The attention was also paid to differentiating between patterns that are specific to particular subunits and those that can be identified across several subunits (and hence can be considered as representing the larger unit).

The data collection and analysis based on the selected case and its subunits also included several methodological steps as shown in Figure 3. The rationale behind choosing the applied methods and detailed description of the methodology is provided in Chapter 3.3. The results and conclusions emerging from the data analysis have been described in Chapters 5 and 6 and summarized in Chapter 7. Generalization of the study results has been made with caution, taking into account the explorative character of the study and the use of the single case. According to Mayring (2007), “explorative studies do not generalize well, but develop general statements, hypothesis, which can be tested for generality in following studies.” Yin (2009) expresses a similar opinion in the context of case studies stating that they “are generalizable to theoretical propositions.” Essentially, the approach used in this research work is consistent with ‘analytic generalization’ suggested by Yin (2009) (as opposed to statistical generalization), but the generalized statements still need to be viewed in the specific context of the chosen case.

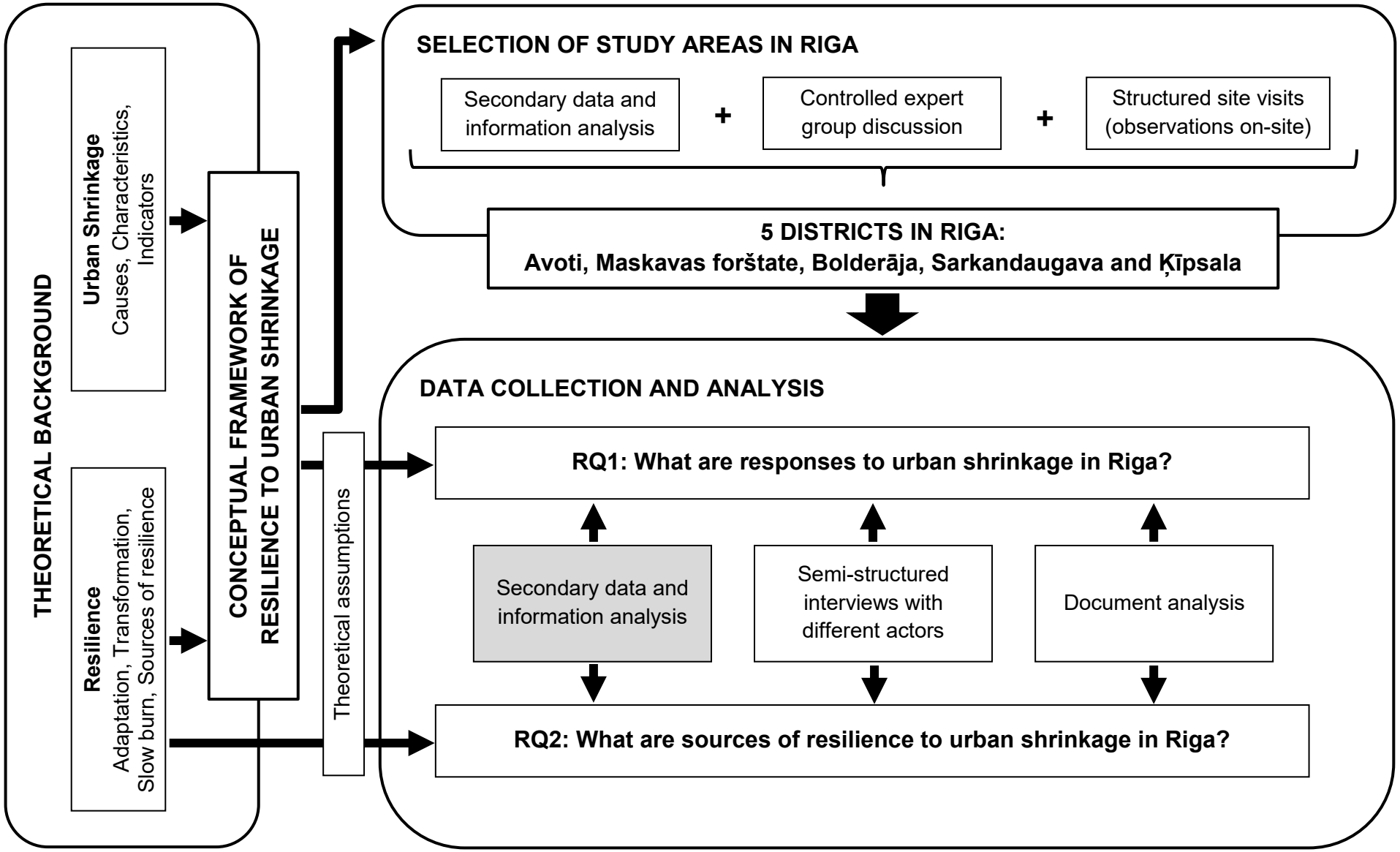

Figure 3 Overview of the research steps and methodology (own illustration)

3.2 Methodology for selection of the study areas

As can be seen from Figure 3, the selection of embedded units or study areas was based on combined results of secondary data analysis, controlled expert group discussion, and observations on-site done during structured site visits. The decision to apply several methodological approaches or mixed-method strategy was made to compensate for the limited availability of secondary data through the use of information from multiple sources. Also, applying methodological approaches that go beyond secondary data analysis allowed to direct the selection of the study areas using criteria derived from the theoretical framework which in turn increased the probability that the selected subunits are relevant for finding answers to the research questions.

The process of selecting study areas was started with secondary data analysis. It allowed to get an overview of shrinking and growing districts in Riga, but it narrowed the pool of potential subunits only slightly. The lack of clear and quantifiable criteria and relevant data for identification of other responses than decline resulted in the need to look for additional methodological approaches that would help determine potential subunits based on the developed theoretical concept. One such approach was controlled expert group discussion that allowed to obtain opinions of planning professionals familiar with Riga. The objective was to narrow down those districts that have characteristics similar to trajectories of adaptation and transformation described in the theoretical part of this study. These results then were verified through structured site visits (direct observations) to ensure that the processes of adaptation and transformation in the pre-selected districts are linked to urban shrinkage (and not resulting from other phenomena). The outcomes of this process and the justification for selection of the specific districts are described in Chapter 4.3.

After the selection of the study areas, the secondary data and information analysis were conducted already with a focus on the selected districts. It allowed to explore the main differences and similarities among the selected study areas and get a general overview of the processes that are taking place in these areas. The results are summarized in Chapter 4.4. All methods are described in more detail in the following subchapters.

3.2.1 Secondary data and information analysis

Initially, the secondary data analysis was employed for the selection of the study areas. It was a logical choice due to the necessity to identify certain processes in Riga districts (described in the theoretical part of this work) that have been occurring over a longer period. According to the literature, for an exploration of historical development, only secondary data will be available (Rasmussen, Ostergaard & Beckmann, 2006).

Overall, it was possible to identify those Riga districts that have been subjected to urban shrinkage based on the available data, but it was not possible to get insights into other processes like adaptation or transformation that were crucial for choosing the study are-

as. As a result, secondary data analysis has been used to narrow down the initial pool of potential study areas and to provide additional justification for choosing or eliminating specific districts at later stages of the subunit selection process.

As already mentioned previously, the secondary data analysis was also used for characterization of the selected study areas. The focus was on finding similarities and differences regarding population dynamics, built environment (including existing development trends), and availability of public infrastructure among the selected districts as these are the domains that are linked to urban shrinkage. It was seen not only as a necessary step to familiarize readers with the study areas but also to explore the context in which responses to processes associated with urban shrinkage are being analyzed. On some occasions, secondary data was also used to provide additional justification for analysis of responses to urban shrinkage or sources of resilience to urban shrinkage in Riga.

Data sources

Because the chosen subunits (districts) are not official statistical or administrative units, the availability of secondary data is limited (especially for the 1990s). However, the timing of the research provides some advantages as Riga City Council is carrying out or outsourcing number of background studies for the development of next city spatial plan. In this context, Riga districts are used as planning units. Therefore, the majority of this data is collected and reported at the district level. The overview of secondary data sources is provided in Table 6.

Overall, the existing data sources provide more information on different aspects of interest for the late 2000s or early 2010s (especially 2012 and 2013) than the 1990s. It caused some problems as it prevented carrying out consistent data analysis on the district level over the whole period that Riga has been losing population. However, taking into account the focus of the study on responses to urban shrinkage (a stage that is thought to be occurring two or more decades after the beginning of population loss), the available data is viewed as providing fairly accurate contextual information for analysis of the responses.

Table 6 Overview of the main secondary data sources

Data source	Description	Timeframe
http://apkaimes.lv (Riga City Council City Development Department)	Number of inhabitants per district	1997-2010
Databases of Central Statistical Bureau of Latvia (LR Centrālā statistikas pārvalde)	Variety of data on the city level	1990-2014
	Census data 2011 – demographic and other data on the district level	2011
SIA “Datorkarte”	Survey of degraded territories and objects in Riga (Degradēto teritoriju Rīgā apsekojums)	2012
Riga City Council Property Department	List of environment degrading buildings[2] in Riga (Vidi degradējošo, sagruvušo vai cilvēku drošību apdraudošo būvju (graustu) saraksts)	December 2013
SIA “SKDS”; SIA “Latvijas Fakti”	Survey results: Residents’ satisfaction with the local authority	2012, 2013
SIA “Datorkarte”	Survey results: Experts’ assessment of quality and accessibility of services in Riga districts	2012
SIA "Aptauju Centrs" & SIA "Projektu un kvalitātes vadība"	Resident surveys about life in Riga districts (a separate report available for each district)	2013
SIA “Metrum”	Economic and geographic description of districts (Apkaimju ekonomiski-ģeogrāfiskais apraksts)	2007
Biedrība "Ideju Māja"	Historical description of districts (Apkaimju vēsturiskais apraksts)	2008
Riga City Council	Riga municipality’s public reports (Rīgas pašvaldības publiskie pārskati)	2003-2013

Data analysis

The approaches used for secondary data analysis vary from one data set to another, and the specific aspects needed for interpretation of the results are indicated alongside the result description where relevant. The available secondary data were mostly used in following ways: (1) to produce figures (graphs or maps) that illustrate trends or patterns in Riga and its districts; (2) to calculate rates or relative values of specific data indicative of particular processes or phenomena in the city or (3) a combination of both. In many cases, ideas for analysis of specific data sets were based on the set of indicators of urban shrinkage described in Chapter 2.1.5 (especially for the selection and characterization of the study areas).

The results and conclusions emerging from the secondary data analysis can be found in Chapters 4, 5 and 6, but the majority of the obtained results are summarized in Chapter

[2] The term ‘environment degrading buildings’ is a direct translation from Latvian. It refers to a specific term used by the Riga City Council Property Department to describe buildings that are abandoned and/or degraded and that have a negative impact on the surrounding urban environment.

4. In Chapters 5 and 6, secondary data is used only in few instances when it provides additional insights into researched topics or aspects.

3.2.2 Controlled expert group discussion

Controlled expert group discussion was conducted based on the principles of Delphi method or technique. It is a qualitative method "seeking to produce a consensus on an issue of concern through a survey consisting of rounds" (Aigbavboa & Thwala, 2012, p. 148). It can be characterized as a controlled debate among experts (Gordon, 1994, p. 4). It allows anonymity of participants (free expression of their opinions without undue social pressures from others in the group), iteration (refinement of views based on group results), controlled feedback, and statistical aggregation of group response (Skulmoski, Hartman & Krahn, 2007, pp. 2-3).

In this study, the controlled expert group discussion was used to select the most interesting and relevant study areas (districts) in Riga for further research based on expert opinions. The overall process of the two-round study is shown in Figure 4. It was carried out over a period of approximately one and a half months (June/July 2013). However, the preparatory work (development of a questionnaire and identification of the experts/respondents) was started as early as January 2013.

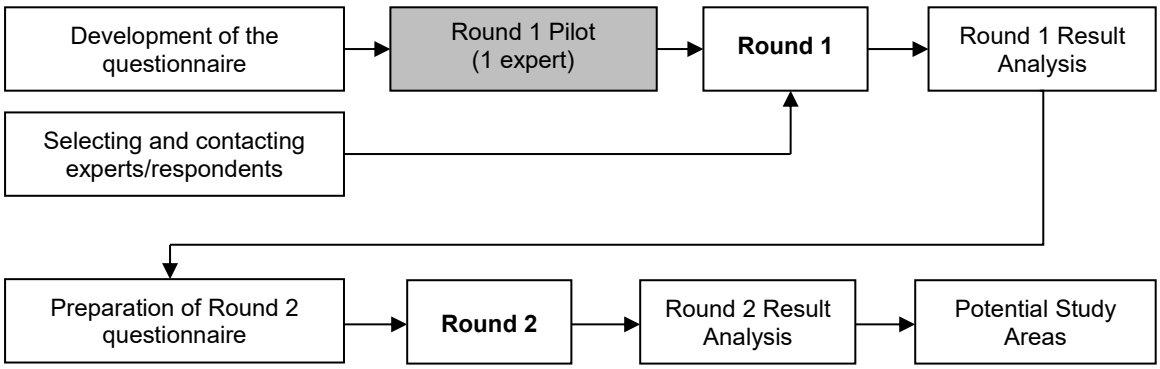

Figure 4 Two Round Expert Group Discussion Process (own illustration)

Normally, the Delphi process consists of three basic components: the creation of a panel of experts, the use of series of questionnaires, and the provision that is made for the feedback of findings to respondents (Masser & Foley, 1987, p. 218). All of the mentioned components have been represented in Figure 4 and described in more detail in following sections of this chapter.

Selection of a panel of experts

The key to a successful Delphi is the selection of participants. It is essential to include persons who can or are likely to contribute valuable ideas; therefore the panel normally consists of non-representative (of a larger population), but knowledgeable participants (Gordon, 1994, p. 7) – a purposive sample (Skulmoski, Hartman & Krahn, 2007, p. 4). There are no exact criteria for selection of Delphi participants (Hsu & Sandford, 2007, p.

3). However, some literature sources provide general suggestions: (1) knowledge and experience with the issues under study; (2) capacity and willingness to participate; (3) sufficient time for participation; (4) effective communication skills (Skulmoski, Hartman & Krahn, 2007, p. 4).

For this study, similar criteria were applied. First of all, it was important to identify those experts or respondents that would have first-hand knowledge about different urban processes occurring in Riga. It led to selection and targeting of four groups of respondents: (1) planners and architects; (2) researchers; (3) representatives of Riga City Council (from City Development Department, Property Department, Housing and Environment Department, Welfare Department and others); and (4) developers and real estate experts. Second, it was important that the respondents be familiar with the whole city (not just specific parts). Third, the respondents' willingness to participate and availability of sufficient time for filling out questionnaires came into play. The approach for the identification of potential experts was mostly based on help from key informants – supervisors, acquaintances, and other personal contacts in planning and academic circles in Riga and Latvia as has been suggested in the literature (Skulmoski, Hartman & Krahn, 2007, p. 4; Gordon, 1994, p. 7). Communication with the respondents was carried out via e-mail (as it was also the media used for conducting the study).

In total, 21 potential experts (or organizations) were identified and contacted via e-mail. Seven of these experts expressed willingness to participate (1 pilot + 6 panel experts), but the results (returned questionnaires) were received from 6 panel experts. All experts that were involved in the study came from the field of planning (public or private organizations) forming a homogenous (regarding the experts' professional background) group.

Considering that the potential pool of experts or knowledgeable respondents is not very big, a panel of 6 experts was considered sufficient. Moreover, the literature sources have not reached a consensus on the optimal number of respondents that should be involved (Hsu & Sandford, 2007, p. 3) therefore the achieved response rate is seen as adequate.

Development of the questionnaire

Another crucial step for a successful Delphi survey is the development of the questionnaire. For this study, the development of the questionnaire was planned in 3 stages: (1) development of the first draft of the questionnaire in English and discussion of the content and specific questions with supervisor(s); (2) development of the second draft of the questionnaire in Latvian (language that was used for carrying out the survey) and several discussions of the content and specific questions with the second supervisor; (3) carrying out a small pilot with 1 or 2 experts, and finalizing the questionnaire. The selected approach for questionnaire development was in line with the suggestions found in the literature as it has been advised to test and discuss the questionnaire (Gordon, 1994, p. 8) before sending it out to the whole panel of respondents. Unfortunately, the pilot study

failed as the expert who agreed to participate in it did not manage to return the questionnaire (even after repeated reminders). Taking into account the limited number of potential experts with relevant knowledge (and time constraints), it was decided to follow through with the expert group discussion without the pilot stage.

The aim was to develop a questionnaire that would be in line with the objective of the Delphi study and grounded in the theoretical background and assumptions of the dissertation described in the theoretical part of this work. The expected result of the expert group discussion was a selection of relevant study areas (districts) that according to experts' opinions exhibit signs of shrinkage, transformation or stability which were used as surrogates for all three trajectories of response (adaptation, transformation, and decline). Without going into much detail, great attention was paid to making the questions clear and answerable as well as avoiding factual questions (Gordon, 1994, pp. 10-11). The final version of the questionnaire (see English version in Appendix I) was developed in Latvian, and it contained three main thematic groups of questions (11 questions in total). All questions were designed similarly – the experts were required to name up to 5 districts in Riga based on the process or characteristics described in the question.

One questionnaire was used as a basis for both discussion rounds. The questionnaire for the second round was complemented with a summary of group answers from the first round. It also included each respondent's answer from the first round, and the option to change or adjust the initial answer based on the group's overall opinion was provided. For both rounds, the questionnaire was disseminated to the respondents via e-mail (as mentioned before).

Analysis of the results

As explained earlier, the expected answers for all questions were the names of districts in Riga that are characterized by certain features or processes described in the question. The condition for the respondents was to name up to 5 districts for each question. The received answers were summarized by questions (each question had a list of districts suggested by respondents) and ranked based on the times the respective district was mentioned (in the case of 6 respondents, one district could have 1 to 6 mentions per question). At the top of the ranked list were put the most often mentioned districts, and at the bottom – the least often mentioned. The summary of answers (of the whole group) was fed back to the individual respondents in this form in the second round.

The results of the second round were analyzed similarly. In case some respondents had altered their answers (added or removed some districts), it was reflected in the summary of group's answers. In total, five of six panel experts used the second round of the group discussion to adjust their answers (add or remove some of their answers as well as include comments).

Based on the results of the second round, a list of potential study areas was devised. All those districts that received high consensus (5 or 6 mentions per question, in some cases also 4 mentions) in at least one question were considered as potential study areas.

3.2.3 Structured site visits

The objective of structured site visits was to verify the results of controlled expert group discussion by obtaining real-life insights into the situation on-site of the potential study areas. It was a necessary step for finalization of the selection process. The structured site visits were carried out in 9 pre-selected districts: Maskavas forštate, Sarkandaugava, Avoti, Ķīpsala, Skanste, Pleskodāle, Bieriņi, Bolderāja, and Vecāķi.

The guiding notion for the site visits was taken from the theoretical framework which distinguishes several stages of response trajectories. For a district to be valid as a study area, it had to be possible to identify signs of processes related to the potential responses to urban shrinkage: 1) there had to be signs of shrinkage or decline visible in the area; and/or 2) it had to be possible to observe signs or trends that could be attributed to either process of adaptation or transformation. All nine pre-selected districts already complied with at least one of these aspects based on the results of the secondary data analysis and/or controlled expert group discussion. The structured site visits were used as means to increase the probability of choosing relevant study areas as well as to familiarize oneself with the situation on-site.

The site visits were carried out during the first fieldwork between 20.08.2013 and 10.09.2013. The length of each site visit and the chosen itinerary was based on the previous knowledge of the processes occurring in the pre-selected districts and familiarity with the areas. In some cases, it was only necessary to confirm already known development path of a district (e.g., in the case of Bieriņi or Vecāķi), but in other cases, it was necessary to have lengthier or repeated visits.

Notes and photographs were taken throughout the site visits. The aspects that were the focus of the site visits are following:

- Visible signs of shrinkage: residential and retail vacancies, ruined, abandoned and uninhabitable buildings, brownfield sites, low quality of the built environment;
- Potential signs of transformations processes: new development projects (finished, ongoing, and stopped), renovation projects, potential change of functional use of the buildings (esp. from residential to office or commercial use);
- Potential signs of adaptation processes: small-scale maintenance or upgrading projects of buildings or public spaces, comparatively good quality of the built environment (well-maintained);

- Other characteristics of districts: local center (yes/no), community meeting points/space for interaction (yes/no), local provision of everyday services (yes/no/partial), general character and atmosphere of the districts, and others.

The results of the site visits were summarized in a short report on each district that was visited. These results were used to provide additional justification for choosing or eliminating some districts from the list of pre-selected districts. The information was also useful when describing similarities and differences in the selected study areas, especially the aspects related to the built environment.

3.3 Methodology for data collection and analysis

For finding answers to the proposed research questions, it was also deemed necessary to use a combination of several data and information sources and methodological approaches as can be seen in Figure 3. Overall, the majority of data was obtained through semi-structured interviews with different actors. Additionally, document analysis was employed to gain insights into proposed strategic approaches in response to urban shrinkage. Finally, secondary data was used to complement the findings from semi-structured interviews and documents analysis when relevant. As the available secondary data has been mostly used descriptively and the main approaches for analysis have already been described previously (see Chapter 3.2.1), the methodology of secondary data analysis will not be repeated here. The chapter, however, provides an overview of methodological approaches used for the semi-structured interviews and document analysis.

3.3.1 Semi-structured interviews

Selection of the relevant data collection methods was based on the proposed research questions. Overall, the focus of the study on responses to urban shrinkage (RQ1) and the sources of resilience that help to bring about these responses (RQ2) demanded an in-depth understanding of the actions taken by various actors. Such understanding could only be obtained directly from the actors. Therefore, it was necessary to choose the most relevant methodological approach for extracting the knowledge and information from key individuals. Taking into account the variety of involved actors and potential responses, completely standardized data collections methods were deemed inadequate. Semi-structured interviews (specifically expert interviews) were chosen instead as the method "is sufficiently structured to address specific topics related to the phenomenon of study, while leaving space for participants to offer new meanings to the study focus" (Galleta, 2013, p. 24). In general, the selected methodological approach was based on the concept of expert interviews by Flick (2009), semi-structured interviews by Galletta (2013), and in-depth interviews by Boyce & Neale (2006). The specific aspects of the applied methodology are described in detail in the following subchapters.

Interviewees

One of the crucial aspects of collecting relevant data was selecting the right interviewees. According to Galleta (2013, p. 33), it is very important to consider "what individuals are most likely to offer responses relevant to the research questions." Initially, two general actor groups were distinguished: (1) experts in planning and urban development in Riga and (2) active agents in the specific study areas/Riga city. In both cases, interviewees were chosen for their specific function or specific (professional) experience and knowledge (Flick, 2009, pp. 166-168), and can be seen as 'experts' (a purposive sample).

Identification of the specific interviewees was initially made through preliminary data and information analysis. It included more concrete actor groups: (1) representatives of Riga City Council and its institutions; (2) planners and architects; (3) representatives of local NGOs[3] or institutions; (4) developers; and (5) representatives of different creative initiatives[4] in Riga. Additional interview partners were identified during fieldwork phase using snowball approach.

At the early stages of the research work, it was also considered to conduct interviews with private proprietors who own land or buildings in the selected districts and local residents (to include all actor groups in the study). However, several practical considerations came into play. First of all, it is difficult to identify private proprietors as such information is not freely available. Even official institutions dealing with this actor group sometimes struggle to find the proprietors and get in touch with them. Second, interviewing one or two private proprietors or residents was not likely to render sufficient data. Different sampling method would need to be employed for selection of respondents from these actor groups and a relatively higher number of interviews conducted to ensure representation of the whole population in each district. It would have required more time and resources. Third, there was sufficient amount of doubt whether such interviews would provide useful information for answering the proposed research questions as representatives of these actor groups were not necessarily active agents in their respective districts. Finally, it was possible to extract information on key issues linked with activities of private proprietors and residents from interviews with other actor groups or use secondary data (e.g., residents' surveys) to obtain further insights.

[3] In this case, a local NGO is understood as an officially registered non-governmental organization that has been created and is managed by local residents of the specific Riga district and aims its activities at betterment of the existing situation within the district and for the local community.

[4] Creative initiatives include different movements or projects that are aimed at dealing with specific problem(s) or topic(s) in Riga by carrying out own activities or providing support or tools for local actors and is organized and managed by formal or informal organizations or individuals.

Potential interviewees were initially approached via email providing sufficient information on the research topic, the justification for selection of the specific person as an interview partner, and general description of items for discussion in the interview (similarly to what has been suggested by Galleta (2013, p. 33)). In the case of positive response, further discussion and arrangement of time and place for the interview was done via e-mail or phone (depending on the preferences of the interviewee). In the case of no response, a second email was sent at a later stage, or it was attempted to reach the potential interviewee via phone (if available).

In total, 18 individuals agreed to participate in an interview, and one more person agreed to answer the interview questions via email due to time restrictions. The distribution of all interviewees across actor groups, specific institutions or organizations, and spatial scales is represented in Table 7, but the list of interviews is provided in Appendix II. It has to be pointed out that several interviewees were representing more than one actor group due to an overlap of roles. Therefore, the suggested number of interviewees in Table 7 exceeds the number of individuals that were interviewed (19). Additionally, it is worth mentioning that almost all actors on the local scale were also residents in their districts.

Table 7 Overview of interviewees and their distribution across different actor groups, institutions, and spatial scales (own compilation)

<table>
<tr><td rowspan="2">CITY</td><td rowspan="2">Representatives of Riga City Council institutions
City Development Department
Board of Strategic Management (2)
Board of Project Management (1)
Property Department
Board of Building Maintenance (1)
Municipal Agency “Rīgas pilsētas arhitekta birojs” (1)</td><td>Planners and architects (5)</td></tr>
<tr><td rowspan="2">Representatives of creative initiatives (4)</td></tr>
<tr><td>CITY-LOCAL</td><td>Representatives of Riga City Council institutions
Austrumu Executive Directorate (1)
Centre "Koka Rīga" (2)</td></tr>
<tr><td rowspan="4">LOCAL</td><td colspan="2">Representatives of local NGOs (6): Sarkandaugava (3), Maskavas forštate (1), Ķīpsala (1), Avoti/Grīziņkalns (1)</td></tr>
<tr><td colspan="2">Representatives of local creative initiatives (1): Avoti</td></tr>
<tr><td colspan="2">Representatives of local educational institutions (1): Sarkandaugava</td></tr>
<tr><td colspan="2">Developers (1): Ķīpsala</td></tr>
</table>

Overall, it was attempted to interview at least one active agent in each of the selected districts. Unfortunately, it was not possible to interview a key individual in one of the study areas. It has had an impact on the overall understanding of the activities taking place in this district which could have been only partially compensated with secondary data and other information sources. In other cases, one or more key individuals were interviewed. The number of conducted interviews largely depended on the number of active agents in each study area and the internal structure of local organizations which has been reflected in the result description.

Questions and interview guide

Another crucial aspect of data collection was the development of interview questions or interview guide. According to Flick (2009, p. 167), an interview guide in expert interviews has "much stronger directive function with regard to excluding unproductive topics." Overall, a set of questions was developed based on the main research questions, literature studies, and preliminary data and information analysis for each actor group. The role, specific knowledge, and expertise of each actor group were also taken into account. The questions were initially developed in English and then translated into Latvian for the interview process.

The interview guide was based on a sample interview guide for key stakeholders by Boyce & Neale (2006, pp. 11-12) which consisted of three main parts: introduction, a set of questions, and closing remarks. The English version of the initial interview guide (including different sets of questions for each actor group) is provided in Appendix III. The interview guide (specifically the set of questions) was adjusted before each interview taking into account the role(s) and professional experience of the interviewee. On some occasions, it was required to merge different sets of questions to cover all topics of interest as some interviewees represented more than one actor group. The interview guide was also continuously reviewed and improved throughout the field work to increase the clarity of the questions or add additional questions when needed.

Interview process

Interviews were carried out during the field work in Riga from 29.03.2014 – 07.05.2014 (for more details see Appendix II). The specific date, time, and location were agreed with each interviewee separately depending on their preferences and availability. The venues of the interviews ranged from an office environment to public places (like cafes) which in some cases had an impact on the atmosphere during the interview as well as the recorded material.

All interviews were conducted in Latvian. The majority of the interviews began with an introduction to once more shortly introduce the interviewer, the research work, general objectives and the role of the interviews, reasons for interviewing the specific person, rights of the interviewee, and confidentiality issues. All interviewees were promised anonymity, and they were asked to allow to make a recording. If the permission to make a recording was granted, the interviewee was asked to sign a consent form (see the English version of the consent form in Appendix IV).

After signing the consent form, the recording device was turned on, and the interview process could begin. The interviewee had rights not to answer a question or ask for any additional clarifications throughout the interview. The interviewer used the set of questions included in the interview guide rather flexible depending on the answers of the interviewee (adding or emitting questions as needed). At the end of the interview, the inter-

viewee was asked if he/she had anything else to add to whatever had already been said. If not, the recording device was turned off following which the interviewer thanked the interviewee once more and answered any additional questions. If the interviewee had said something of importance during the time the recording device was off (before or after the interview process), it was noted in a written form after the interview.

On average, an interview lasted between 45 min to one hour. The shortest interview lasted around 30 min, but the longest – more than one and a half hours. On three occasions, the interview was followed by a short excursion within the building/institution or the district where interviewees could show examples of their work/activities. Additionally, on separate occasions, it was possible to participate in local community events (in Sarkandaugava and Maskavas Forštate) which contributed to improving the understanding of the activities discussed in the interviews and carried out by the local actors.

Additionally, it has to be mentioned that a follow-up informal discussion took place in one specific case. It happened approximately one year after the interview process and revealed crucial changes related to the activities of one of the interviewed actors that could not be ignored in the analysis of the final results.

Interview analysis

All interviews were protocoled based on the recorded material (audio file) and written notes that were taken during or after the interview. To avoid losing the meaning of what was said by the interviewees, the protocols were prepared in the original language of the interview – Latvian. Furthermore, to ensure the confidentially and anonymity of the interviewees, the names of the interviewees have not been mentioned in the protocols or the file names of the protocols and recorded material.

The protocols include following information: code of the protocol (that allows to identify relevant audio file); general venue of the interview; date, time, and length of the interview; the actor group(s) the interviewee belongs to; and the summary of the questions and answers given during the interview. In some cases, additional notes have been added at the end of the protocol.

The interview analysis was done based on the protocols. The initial steps of data analysis were based on early meaning-making by Galletta (2013, p. 125): reading closely within each interview; locating and documenting meaningful text; assigning names or codes to capture ideas related to the text; looking for thematic patterns across interviews and other data sources. The thematic patterns or main themes for interview analysis were based on (1) actions taken by different actors in response to urban shrinkage (or specific aspects of urban shrinkage) and (2) sources of resilience to urban shrinkage.

For the purposes of data analysis, the actions taken by different actors were further broken down into strategic actions and activities and analyzed in the context of specific pro-

cesses of shrinkage taking place in Riga. These have been identified and described in Chapter 4.1 and can be summarized under three main headings: population loss, degradation of the built environment, and thinning-out of public infrastructure. Overall, it resulted in having six main thematic patterns for analysis of responses to urban shrinkage that also construct the subchapters of result description in Chapter 5.

Based on the analysis of different actions, it has been attempted to summarize and generalize them as responses to urban shrinkage based on the theoretical assumptions drawn from the literature. In cases when some actions could not be classified under specific response type (adaptation, transformation or decline), other response types were suggested or sought in the literature. More details are provided in Chapter 5.3.

The categories used for data analysis related to sources of resilience, in general, are identical with the theoretical assumptions drawn from the literature. In total, seven different thematic patterns were applied: leadership, networks, resources, learning, people-place connections, common cause, and the system of institutions and governance. Specific aspects that have been reviewed under each of these seven headings have been drawn from both the literature studies and topics emerging from the data. More detailed description of particular analytical consideration has been included under relevant subjects in Chapter 6.

3.3.2 Document analysis

Additionally to semi-structured interviews, document analysis was also carried out. It was done to obtain a comprehensive overview of the strategic actions described in the planning documents that could be interpreted as responses to urban shrinkage (RQ1). The documents that were analyzed are summarized in Table 8.

Table 8 Overview of the national and local planning documents used for document analysis (own compilation)

Title	Abbreviations used in text	Type of planning document
Sustainable Development Strategy of Latvia until 2030	SDSL2030	National long-term planning document
National Development Plan of Latvia for 2014-2020	NDP2020	National mid-term planning document
Action Plan for Support of Remigration 2013-2016	-	National thematic action plan
Riga Sustainable Development Strategy 2030	RSDS2030	Local long-term planning document
Riga Development Programme 2014-2020	RDP2020	Local mid-term planning document

Overall, the focus of the analysis was on five planning documents on the national and local (city) level. The national planning documents were included in the analysis due to the need to reflect the strategic actions that have been developed by the central government in response to population loss which also affects Riga. Essentially, it was expressed

in one of the interviews, as well as indicated in Riga Sustainable Development Strategy 2030, that Riga municipality is partially relying on the central government to take necessary steps for attracting return migrants to Latvia which makes the national level planning documents relevant to the analysis of the situation in Riga.

From the local planning documents, the focus was only on Riga Sustainable Development Strategy 2030 and Riga Development Program 2014-2020 which are comparatively recent planning documents (approved in May 2014). It was intentionally avoided to include Riga Spatial Plan 2006-2018 in the analysis as it is in many ways irrelevant to the current situation in Riga and was prepared before the global economic crisis (in times of booming economy). The new (or next) Spatial Plan is being developed since 2012 and was not available as a draft document for analysis during the period of research work. Similarly, regional planning documents were not yet produced at the time of analysis.

The analysis of these documents followed similar steps to those suggested by Galletta (2013) for interview analysis, but the focus was much narrower, and the topics of interest were specified in advance. As mentioned at the beginning, the focus was explicitly on strategic actions of the central and local government in response to urban shrinkage. Taking into account that urban shrinkage has not been directly acknowledged or addressed in any of the planning documents, the attention was switched to those characteristics of shrinkage that can be associated with Riga: population loss, degradation of the built environment, and thinning-out of public infrastructure. Overall, the strategic actions in response to population loss were analyzed in both national and local planning documents, but those that can be linked with degradation of the built environment and thinning-out of public infrastructure – only in local planning documents. The outcomes of document analysis, as well as additional analytical considerations, are described in Chapter 5.1.

4 Exploring the context: Riga city and its districts

The previous chapter described the overall research design and methods used for the empirical study and briefly introduced the case of Riga and the methodology behind the selection of embedded units of analysis. This chapter is aimed at providing further details on the case and the specific study areas or districts. The chapter describes three main topics: (1) the case of Riga with specific focus on urban shrinkage and the planning context in which the phenomenon is occurring (Chapters 4.1 and 4.2); (2) the results of the study area selection process and the rationale for choosing the specific districts (Chapter 4.3); and (3) the characteristics of the selected study areas (Chapter 4.4).

4.1 Urban shrinkage in Riga

This subchapter is dedicated to providing more detailed information on urban shrinkage in Riga. The initial focus is on population loss or decline that is often referred to as the main indicator of urban shrinkage in the literature. It describes not only the previously mentioned information on population loss in more detail but also looks at this process in the context of the overall trend of population loss in Latvia and provides insights into the possible reasons behind the recent trend of population stabilization. The discussion continues with an explanation of causes of urban shrinkage in Riga based on the available literature and secondary data. Finally, it concludes with the review of other characteristics of urban shrinkage that have been suggested in the literature, but in Riga context. It allows pinpointing those processes that are resulting from the population loss and can be justified with the existing secondary data.

4.1.1 Population decline: trends and prognosis

Riga is the capital city of Latvia and the largest city in the Baltic States. It has a population of 643 368 residents (2014) and covers an area of 304 km^2. Although Riga was thought to become a million-city under the Soviet regime, the trend of the continuous population growth stopped, and the city has been losing residents since 1989. The population loss between 1990 and 2014 has reached 29.23% which is almost one-third of the population Riga had in 1990 (Central Statistical Bureau…, 2015). The overall trend of the population decline between 1990 and 2014 can be seen in Figure 5.

Mykhnenko and Turok (2007) in their analysis of long-term population trajectories of Eastern European cities between 1960 and 2005 have characterized Riga as a city with medium-term decline (growth during the 1970s and 1980s followed by a decline in the 1990s and early 2000s). Similarly, Tallinn (the capital city of Estonia) and Vilnius (the capital city of Lithuania) have also been put in the same category that in general describes the direction of population change between two points in time, not the rate or level of change.

More recent data on population in Riga, Tallinn, and Vilnius between 2001 and 2014 show some new developments and differences among these cities. The population loss in Riga has continued uninterrupted whereas in Tallinn and Vilnius there have been periods of population growth (in fact, the population has been slightly growing in Tallinn since 2008). Also, the overall trend for this period shows population stabilization or retention in Tallinn and Vilnius but rather clear continuous population decline in Riga (the conclusions are based on data from Statistics Estonia, 2015; Statistics Lithuania, 2015; and Central Statistical Bureau …, 2015).

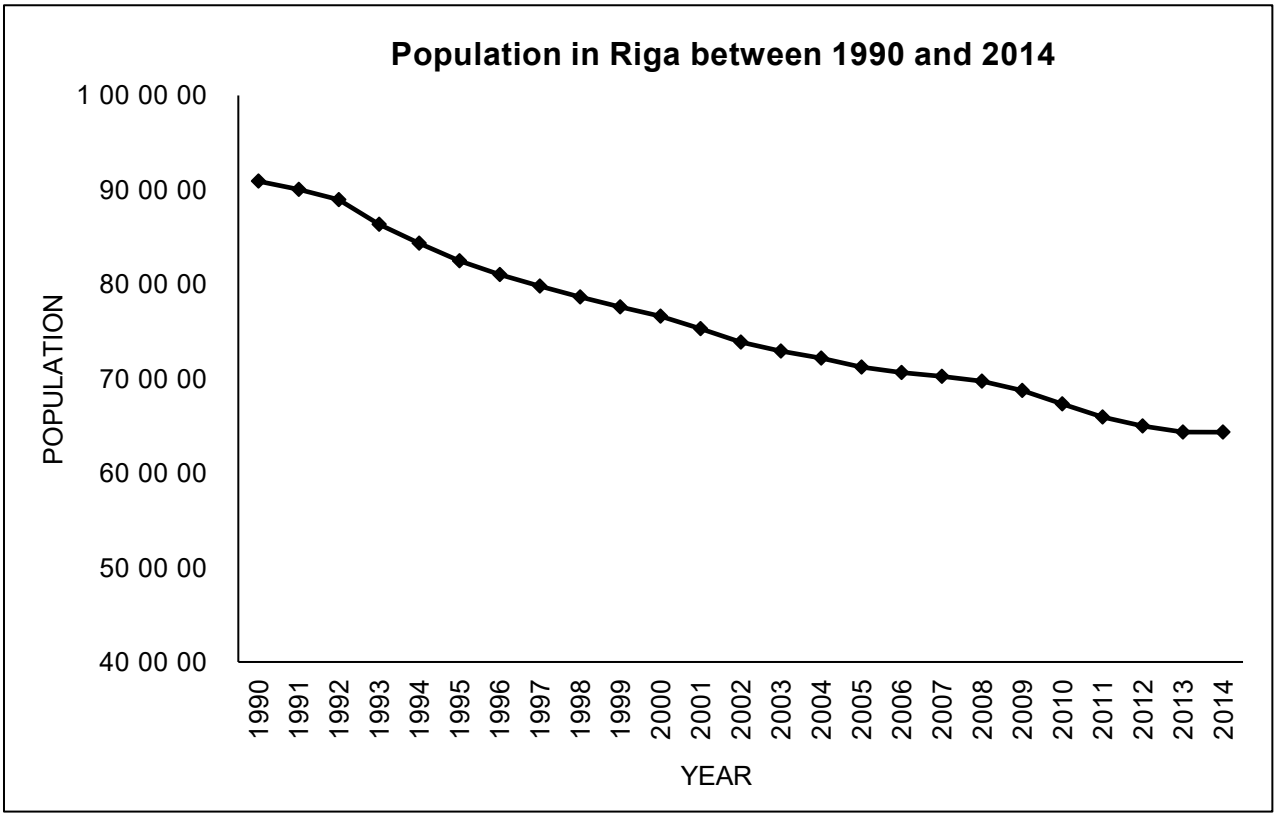

Figure 5 Population in Riga between 1990 and 2014 (Data source: Central Statistical Bureau…, 2015)

Population decline is not only a problem in Riga. It is part of a wider problem in Latvia – the population loss on a national level has reached 25% since 1990 according to data by the Central Statistical Bureau of the Republic of Latvia (2015). Interestingly, when comparing annual rates of population decline between Riga and Latvia for the period of 1990 – 2014, Riga has had higher annual rates of population decline for most of the period. Some improvements can be observed since 2006 when Riga occasionally starts showing some signs of population retention relative to the population decline on the national level, but the trend has not been stable therefore it is too early to draw definite conclusions.

Also, the most recent trend (population loss of only 0.04% in 2014 in Riga) has to be viewed with caution. On the one hand, it could be a beginning of a turn for better, but it will require several more years of a similar pattern to declare it a trend. On the other hand, some actions that have been initiated by the Mayor of Riga could have simply

prompted the declaration of residence in Riga without the influx of new residents. There has been an ongoing debate that the population data for Riga do not reflect the real situation as some people living in Riga have not declared their residency in the city (this has been an issue also raised by one of the experts during the interviews; INT_12[5], 23.04.2014). As municipalities of Latvia are dependent on the income tax of their citizens, a lot can be gained from motivating people to declare their residency in the municipality they are residing[6]. According to media (DELFI, 2013), this has been the motivation behind the announcement of the Mayor of Riga in 2013. He announced that there would be different prices for public transport fares between inhabitants of Riga (declared as residents in Riga or owning a property in Riga) and guests of Riga starting from 1st January 2014. Moreover, the Mayor promised additional bonus for those people who declared their residence in Riga between 25th September 2013 and 31st December 2014. Taking into account the price differences for inhabitants and guests of Riga and the information released later by the media (TVNET/LTV1/Četras istabas, 2014), it is safe to say that some people decided to register their residence in Riga which could have had an impact on the official population data in the city. Although the policy of differentiated public transport fare prices was never implemented, the main objective to promote the declaration of residence in Riga was achieved. In this light, the changes for better in the overall trend of population decline in Riga become less likely and only new data for upcoming years will show the real tendencies.

Based on the existing data, some future prognoses have also been prepared both for the population in Riga and in Latvia. Firstly, European Commission's (2011, p. 137) Demography Report 2010 states that the population of Latvia is expected to shrink dramatically (-16%) by 2050. Demographic prognosis for 2030 prepared by the Institute of Economics of Latvian Academy of Sciences (Eglīte, Ivbulis & Gņedovska, 2012) includes several scenarios not only for Latvia but also for Riga and Pieriga (a statistical region comprised of several municipalities surrounding Riga and defined by the Central Statistical Bureau of Latvia). In general, they use 2 approaches. First, there are inert scenarios that project the population based on the idea that existing mobility intensity indicators in the base year remain unchanged throughout the projection period. Second, there are active scenarios which are calculated with floating mobility intensity that would decrease the negative effects of actual processes but would not exceed predicted residents' activity in family expansion or health maintenance for the upcoming decades in Latvia. These scenarios are prepared including and excluding migration as one of the mobility processes resulting in four different variations of population projections. Regardless the scenario, all

[5] From here onwards, the references to specific interviews will be provided with a reference code (see Appendix II) and the date of the interview.

[6] The declaration of the actual place of residency in Latvia is not mandatory

projections predict that the population in Riga will drop below 600 thousand till 2030. The population decline is also predicted for Latvia and Pieriga region. Other but not much more optimistic prognosis have occasionally been circulating media. All in all, it allows concluding that the population decline will continue and Riga will need to deal with the existing and upcoming impacts of this process.

4.1.2 Causes of Urban Shrinkage in Riga

Based on the population data, the beginning of urban shrinkage in Riga can be dated around 1989/1990. Historically, this is the time when the collapse of the Soviet Union took place, and quite few literature sources refer to this political transformation and its consequences as the main cause of shrinkage in many Eastern European cities. Some authors suggest that a great number of shrinking cities emerged in Eastern Europe and the Near East due to the political, economic, and demographic instability that resulted from a major change in the market and political system (Rieniets, 2005, p. 27; Holst Laursen, 2008, p. 73). Waves of migration to economically strong regions, negative natural population growth, and de-industrialization followed this process (Rieniets, 2005, p. 27; Beyer & Brade, 2006, p. 146).

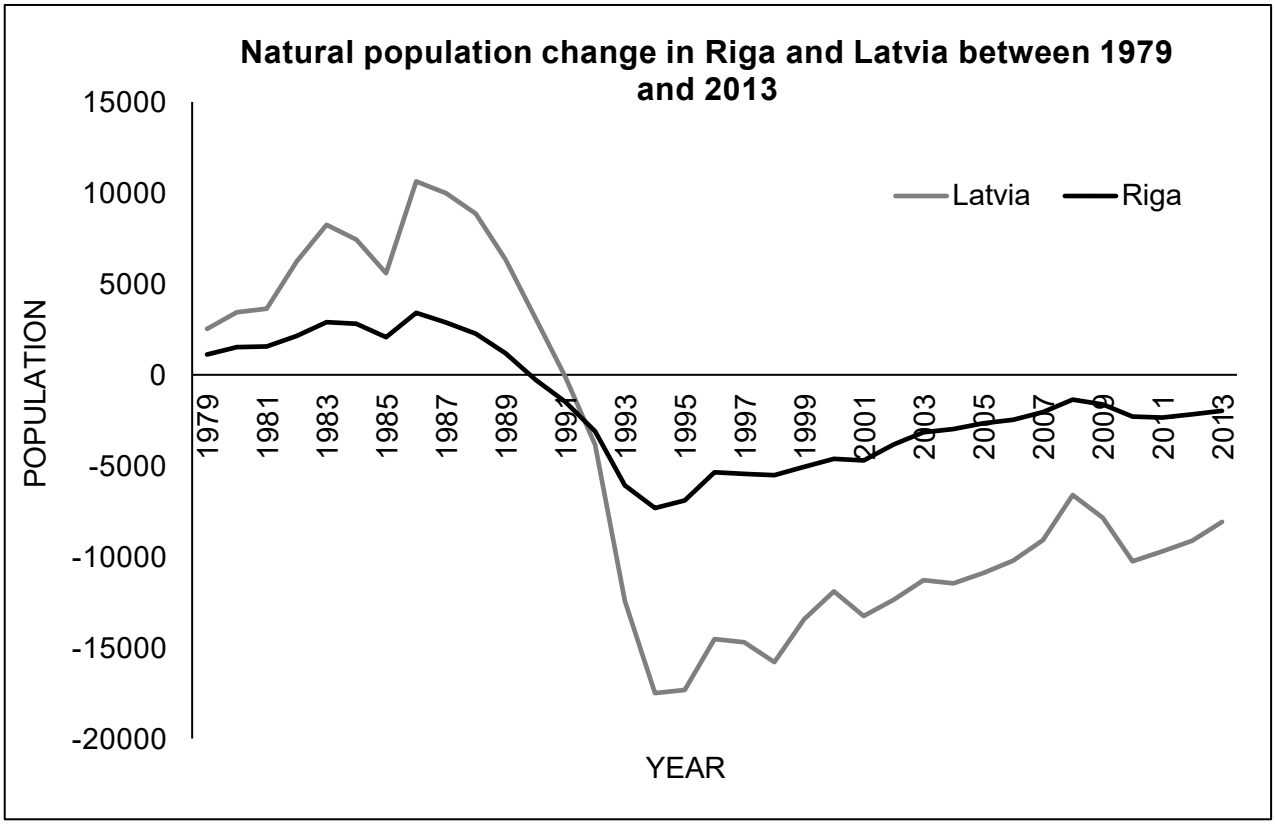

Figure 6 Natural population change in Riga and Latvia between 1979 and 2013 (Data source: Central Statistical Bureau…, 2015)

The collapse of the Soviet Union marks the beginning of population decline in Riga and Latvia, but the processes that can be defined as causes of shrinkage are demographic change (negative natural population change) and migration (emigration mostly due to economic reasons and suburbanization). These have also been the causes of shrinkage mentioned by the experts during the interviews (INT_03, 02.04.2014).

Natural population decrease started in 1990 in Riga, but in 1991 in Latvia (see Figure 6) according to the population change data from the Central Statistical Bureau of the Republic of Latvia (2015). Soon after the beginning of natural population decrease, it reached its maximum (in 1994). The situation has been gradually improving, but it has not reached the stage where it would be possible to talk about natural population increase. In general, the trend shows that the reduction of natural population decrease has been more consistent in Riga than in Latvia. There have been some setbacks (the natural population decrease became slightly more pronounced after 2008 which can be associated with economic decline that brought about financial instability), but the last couple of years show new improvements.

The reasons for the natural population decrease are many and complex, and it is not possible to discuss here the whole range of social, economic, and political processes that have led to the current situation of demographics in Riga and Latvia. However, it is known that aspects like the economic and financial instability, health and vitality, the stability of families and marriages, education, and others play a role (Zvidriņš, 2005, p. 7).

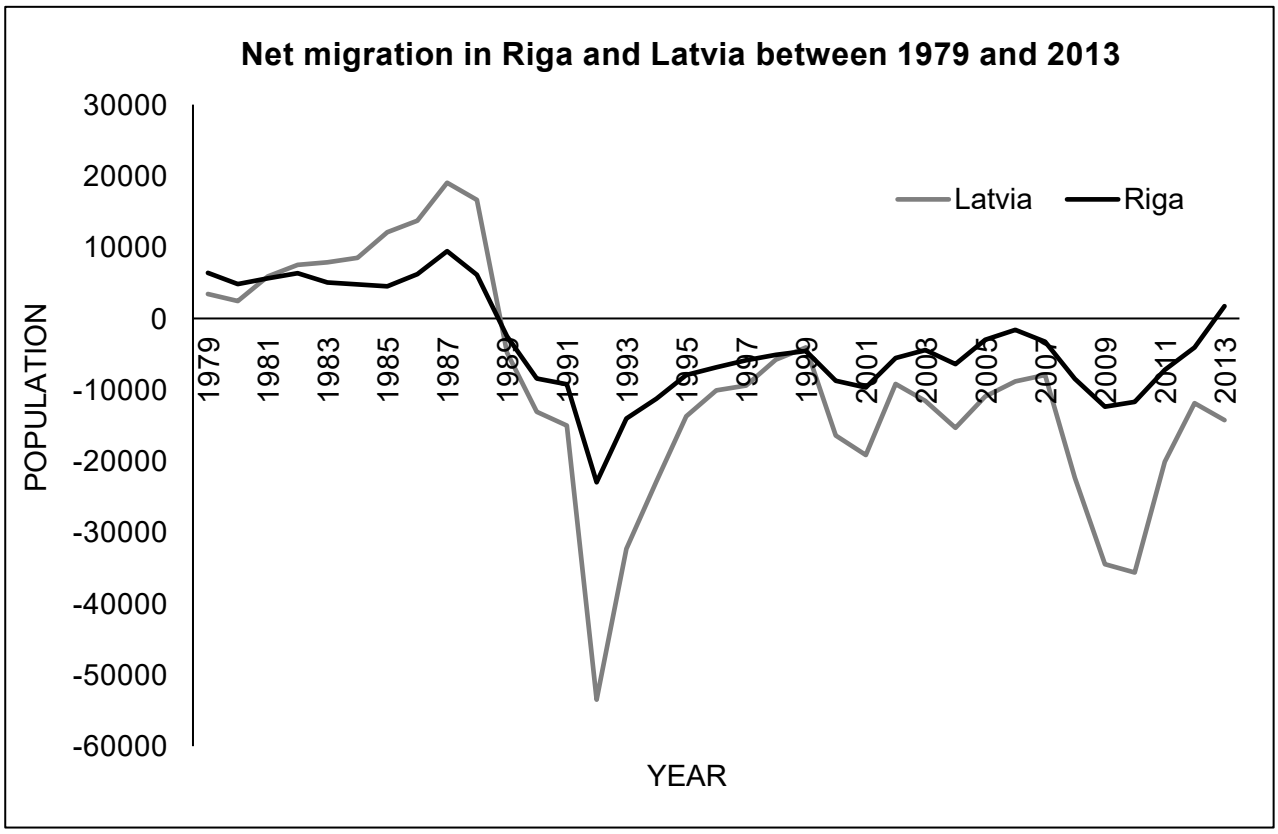

Figure 7 Net migration in Riga and Latvia between 1979 and 2013 (Data source: Central Statistical Bureau…, 2015)

The second cause of population decline in Riga and Latvia is migration. The official data of the Central Statistical Bureau of the Republic of Latvia (2015) on net migration (see Figure 7) allows analyzing the overall migration trend for the period between 1979 and 2013. As can be seen from Figure 7, the number of emigrants exceeded the number of immigrants for the first time in 1989 both in Riga and Latvia. It again coincides with the time when the collapse of the Soviet Union was approaching, and the situation in the country was becoming unstable. Following 1989, the level of emigration was dramatically increasing, and it reached its peak in 1992 when the net migration in Latvia was -53 474 and in Riga – -22 983 residents. The high level of emigration at this point can be attributed to the political transformation in Latvia and return migration to Russia.

The situation stabilized around 1998/1999 when the net migration was still negative but it reduced to less than -5000 residents in 1999. From 1999 onwards, it is possible to observe some fluctuations in the net migration data. There was an increase in negative net migration around 2000/2001 followed by a year of slight improvement. Another increase in negative net migration took place between 2003 and 2005 (peaking in 2004) and relatively high increase in negative net migration appeared after 2008 (especially on the national level), but it was followed by slight improvement in recent years. For Latvia, these fluctuations are associated with waves of emigration, but for Riga, the process of suburbanization also needs to be taken into account. Therefore, it is necessary to shortly look at two distinct processes related to migration causing population decline in Riga: emigration and suburbanization.

When talking about emigration, the literature mostly refers to two main events impacting this process over the last decade. First is the enlargement of EU in 2004 (Apsīte et al., 2012, p. 134; Hazans & Philips, 2011), but second – the global economic recession (Apsīte et al., 2012, p. 134). According to Hazans & Philips (2011, p. 3), the four years after the enlargement of EU in 2004 has been an interesting time for all three Baltic States, not only Latvia. One of the defining features of this period was the outflow of a significant part of the labor force, especially to Ireland and the United Kingdom as the restrictions on labor mobility to these countries were removed after the accession to the EU. To illustrate this, the authors have analyzed gross flows of adult migrants from the Baltic States to the UK and Ireland for the period from 2003 till 2008. A couple of things became evident from their analysis regarding the situation in Latvia. The pre-accession migrant flows from Latvia to the UK and Ireland were quite small (a sixth of one percent). However, after opening the British and Irish labor markets, migrant flows increased reaching 0.9% from Latvia in 2004 (Hazans & Philips, 2011, p. 6). Apsīte et al. (2012, p. 135), in their turn, use registered National Insurance Numbers (NINo) and registered immigrants from Latvia in the UK with Workers Registration Scheme (WRS) starting from 2002 as an indicator of the extent of migration of Latvians to the UK. Based on this data, post-accession immigration of Latvians in the UK started in 2004 (as already identified by

Hazans & Philips (2011)), peaked in 2005 and gradually declined till 2008. Overall, Hazans & Philips (2011, p. 7) proposes an estimate of 6.7% of economically active Latvians that moved (at least temporarily) to the UK and Ireland during 2004-2008.

The second wave of emigration from Latvia emerged in 2008 along with the global economic crisis (Apsīte et al., 2012, p. 134). It has been reflected in the data on registered NINos and registered immigrants from Latvia in the UK with WRS in 2009 showing a considerable increase in comparison to previous years (the number of registered NINos in the UK in 2009 was 20120 in comparison to, for example, 2008 when it was 7970). The authors explain the crisis emigration by mortgage payments or inability to pay monthly payments most often in combination with unemployment or decrease in income level which indicates the dominance of economic reasons for leaving Latvia (Apsīte et al., 2012, p. 137).

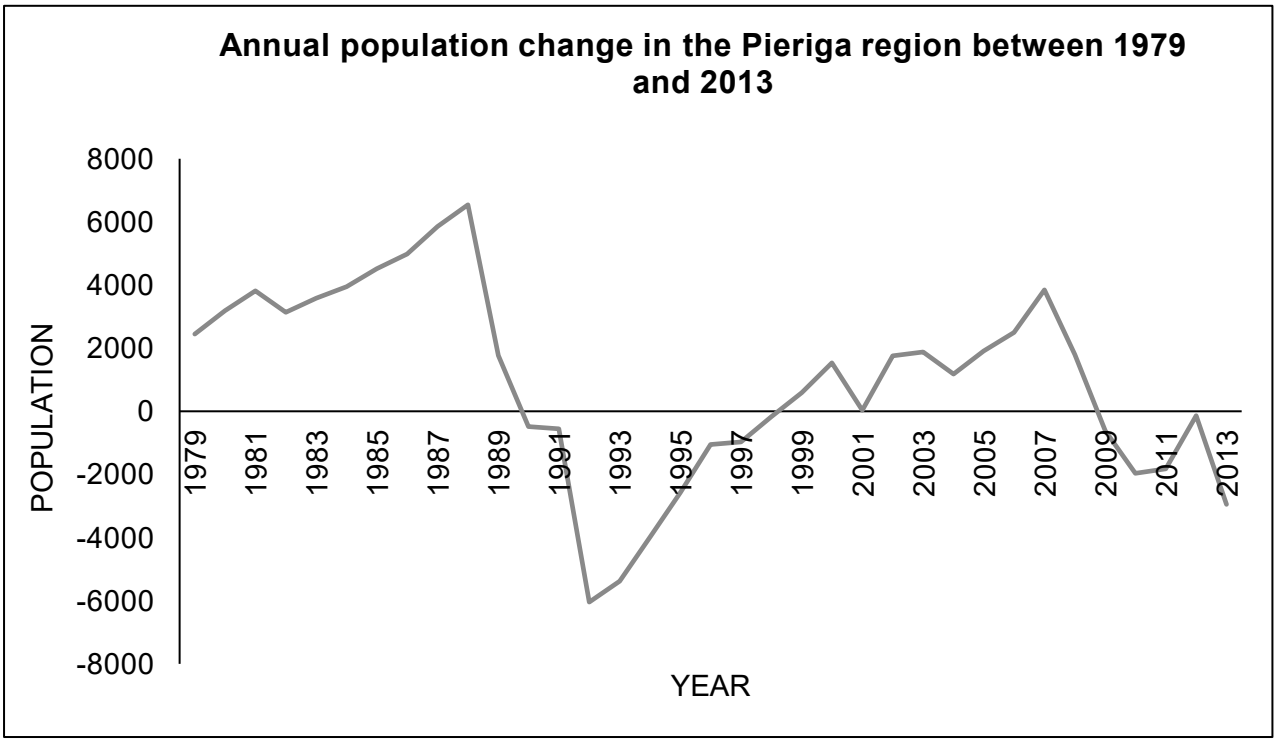

Figure 8 Annual population change in the Pieriga region between 1979 and 2013 *(Data source: Central Statistical Bureau…, 2015)*

Besides emigration, suburbanization has also had an impact on the population in Riga. This issue has been analyzed in more detail by Bērziņš (2011) in his doctoral thesis on geographic mobility in the process of suburbanization in Latvia with more specific focus on Riga between 1999 and 2008. The author's findings show that the population has increased in the Pieriga region[7] by 42 000 during the study period due to in-migration. The Pieriga region has received people in an exchange with all regions in Latvia, but the proportion of the people moving to the suburbs from Riga (49.7%) has been the primary promoter of the processes of suburbanization.

Interestingly, according to Bērziņš (2011) out-migration from Riga to its suburban areas has been a socially diverse process. The author has found out that younger and more affluent people with higher social status have decided to live in the suburbs (pattern associated with Western-style suburbanization). It could be linked to the overall national economic growth during the study period, the availability of mortgages, the development of new residential areas around Riga as well as the infill and expansion of the existing suburban settlements. Besides these new suburban dwellers, there were also low-income residents returning from the cities to the countryside (including the suburban zone) or those forced to do so to overcome economic difficulties.

It is useful to look at data on population change in the Pieriga region by the Central Statistical Bureau of the Republic of Latvia (2015) to get an insight into more recent trends regarding suburbanization around Riga. As it is possible to see from the Figure 8, the increase of population in Pieriga occurred between 1999 and 2008 which is the period of study also used by Bērziņš (2011). Starting from 2009, the population in Pieriga started to decline, especially during 2010 and 2011 as well as during 2013. Interestingly, natural population change has been negative in Pieriga since 1992 hence the population increase has occurred due to in-migration. Since 2009, the net migration in the Pieriga region has also been negative which most likely can be associated with the global economic decline and the sequent wave of emigration due to economic reasons discussed before. Moreover, prognosis by Eglīte, Ivbulis & Gņedovska (2012) predicts further population decline till 2030 also in Pieriga which shows that the process of suburbanization in post-crisis period has slowed down.

4.1.3 Other characteristics of urban shrinkage in Riga

Although population decline is considered the main indicator of urban shrinkage, it is not the only way this phenomenon manifests itself in a city (Rink, Haase & Bernt, 2009;

[7] Pieriga region is a statistical region surrounding Riga city. It does not include the whole Riga Metropolitan Area which currently does not exist as a statistical unit, but it can be used to represent the processes ocurring in one part of the Metropolitan Area to illustrate the general trends.

Großmann et al., 2008). In fact, Großmann et al. (2008, p. 93) state that the city cannot be considered shrinking if it does not show any other characteristics of urban shrinkage besides population decline. Therefore, it is necessary to provide additional information on other known characteristics of shrinkage in Riga to reflect the complexity of the phenomenon.

Built environment

Firstly, the most visible signs of shrinkage in the city are related to the built environment. These are housing and commercial vacancies, abandoned buildings and brownfield sites as well as decay and blight or the general decline in the quality of the built environment. For assessment of these aspects, the literature suggests using vacancy rates, number, and share of brownfields, abandoned buildings, and similar indicators (see Table 5). Unfortunately, there is a limited amount of official statistical data on this topic. Overall, data on conventional dwellings in Riga by the number of occupants (including those dwellings without occupants) was collected during Population and Housing Census 2011 (Central Statistical Bureau…, 2013). The results showed that from 326 567 dwellings 54 823 or 16.8% were without occupants which is a considerable number for a capital city. However, this rate should be treated with caution as there is reasonable doubt that the data does not reflect the actual situation.

Riga City Council's departments (City Development Department and Property Department) have conducted or funded separate studies/data gathering on degraded buildings and territories in Riga that provides some insights into the existing situation for 2012 and 2013. Both studies are in no way comparable as they use different definitions of degraded buildings/territories and have different objectives, but they can be used as an alternative data source for further exploration of the subject.

The first study on degraded buildings and territories was ordered by RCC City Development Department and done by SIA "Datorkarte" in 2012. The results were published as a series of maps showing degraded objects and territories in Riga based on object/building functional type (residential, industrial, mixed-use, and so forth) and type of degradation (functional, visual or both). Upon request, RCC City Development Department also provided data tables of the results which allowed to analyze the number of degraded objects and territories in the city. In total, they had identified 567 degraded buildings or objects and 192 degraded territories in Riga. As there was no data on areal coverage of the degraded territories, it was impossible to calculate the share of these territories to get a better understanding of the extent of the degradation. However, it was interesting to see that half of the territories were classified as degraded visually and functionally whereas other half – only visually. Not surprisingly, nearly one-third of these territories (61) were industrial territories, closely followed by residential areas (50).

The information on degraded buildings or objects also lack data on building floor area or similar aspects that would ensure a possibility for more comprehensive data analysis. However, it is interesting to see that nearly all buildings or objects are degraded both visually and functionally (506), and around half of the objects are residential buildings (283). If recalculated as a rate of buildings or objects per 1 km^2, it is possible to conclude that in Riga on average were 1.87 degraded buildings per 1 km^2 in 2012 according to survey by SIA "Datorkarte." Spatially, a greater concentration of the degraded buildings and objects was found in the core of the city (the city center and its adjoining districts).

More recent information on degraded buildings (or environment degrading buildings) was collected by Riga City Council Property Department. The Department has published a list of environment degrading buildings in December 2013 which was the most updated information at the time the data analysis was carried out. In the list, there were 463 addresses throughout Riga. On average, this data suggests that there were 1.52 environment degrading buildings per 1 km^2 in Riga at the end of 2013. Spatially, a greater concentration of the environment degrading buildings can be observed in the core of the city which demonstrates a similar trend to that found by SIA "Datorkarte" (2012).

In general, it is difficult to draw concrete conclusions whether degraded buildings and territories are a problem throughout Riga from the available data. However, it is possible to say that the spatial distribution of degraded buildings shows a considerable concentration of these objects in the core of the city which indicates that the impacts of the urban shrinkage can be felt more in the central part of the city than elsewhere.

Public infrastructure

A city affected by urban shrinkage also exhibits certain trends linked to socio-demographic aspects of urban life. The literature suggests several processes that can be analyzed in this context: social segregation, thinning-out of public infrastructure, increasing crime levels, and negative impacts on the quality of life. From these, thinning-out of public infrastructure has a more direct link to continuous population decline than others, and it has been used more often in other empirical studies.

The majority of studies on urban shrinkage and social or public infrastructure analyze tendencies in the availability of educational institutions (kindergartens, schools, and so forth) and health or medical institutions. In the case of Riga, it is possible to talk about optimization[8] of educational institutions and cultural institutions (e.g., libraries) as the data on health and medical facilities is unavailable or incomplete.

[8] Optimization is a process involving closure, merger or reorganization of public institutions.

According to the Central Statistical Bureau of the Republic of Latvia (2015), there have been changes in the number of general educational institutions between academic years 1990/91 and 2013/14 (see Figure 9). Initially, there was an increase in the number of schools in Riga till 1999/2000, but it was followed by a gradual decrease. The biggest drop was in 2009/10. Based on Riga municipality's Public reports (Rīgas dome, 2003-2013), ten schools were closed and two schools merged in 2009. Similar actions were taken by the municipality also in following years but on a lesser scale (fewer schools were closed or reorganized).

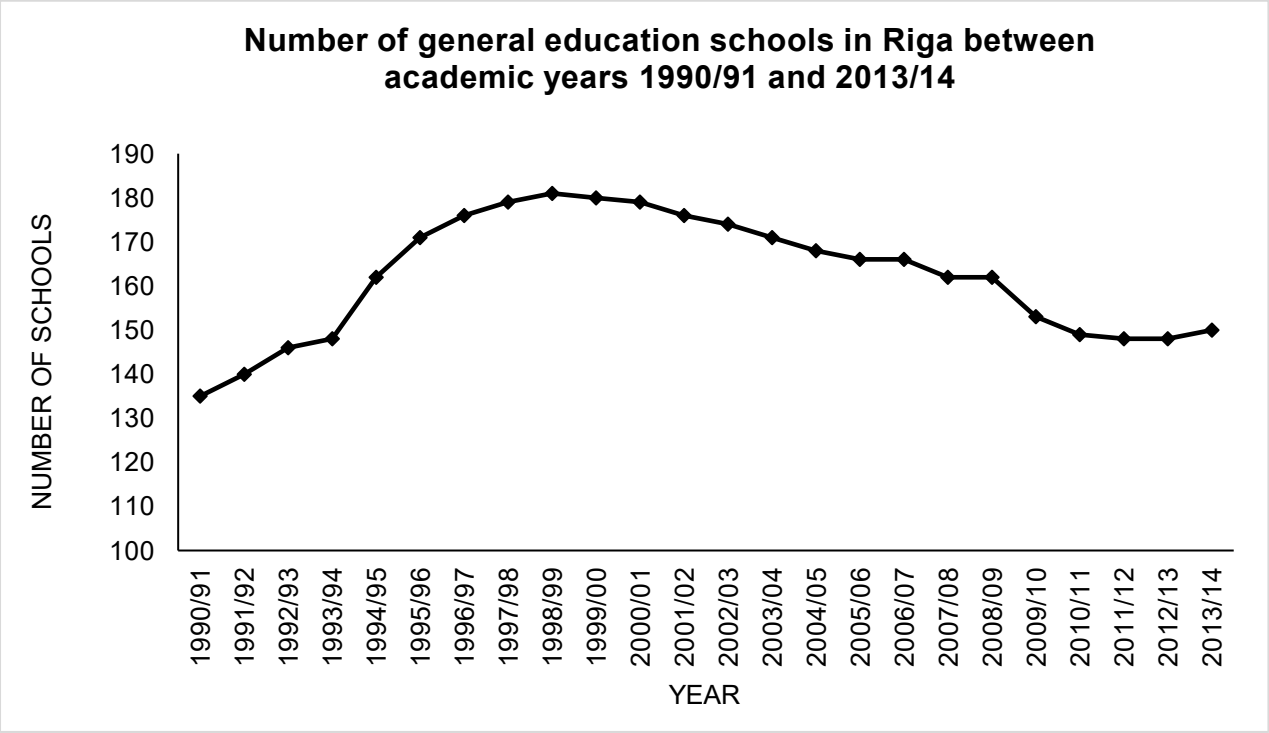

Figure 9 Number of general education schools in Riga between academic years 1990/01 and 2013/14 (Data source: Central Statistical Bureau…, 2015)

A similar pattern can be observed, for example, with libraries. In 2009, Riga Central library carried out optimization of its branches. As a result, 14 branch libraries were optimized (this mostly involved mergers of existing branches which leads to having one library per larger urban area than previously). There has also been a slight reduction in the number of hobby education institutions (from 17 in 2003 to 13 in 2013) and sports education institutions (from 17 in 2007 to 11 in 2013). Unfortunately, there is no real data available on local culture centers or culture houses as well as the possible transfer of functions to other institutions.

On the other hand, pre-school education institutions (kindergartens) have been largely unaffected by the trends of population loss as the demand exceeds the offer. Overall, there has been an increase in the number of preschool educational institutions in Riga (from 146 in 2003 to 152 in 2013). It can be partially explained by the tendency of suburbanites to use the public infrastructure provided by Riga as surrounding municipalities are

not always able to meet the demands of new residents, and many of them commute to Riga on a daily basis for work.

Economic aspects

The economic aspects of urban life associated with shrinkage (e.g., shrinking municipal budget, the decline in investments, the decline in the labor market, and others) in the case of Riga reflect the overall economic situation in the country since 1990. It has to be understood that although the population has been declining, the economic situation in Latvia has been improving quite considerably from 1990 till the global economic crisis in 2008 and again in the recent years. For example, the average net wages of the employed in Latvia in 1995 were 104 EUR per month, but in 2008 it had increased to 498 EUR per month. Due to global economic crises, the average wages decreased in 2009 and 2010, but have again been gradually increasing over the last few years (Central Statistical Bureau…, 2015). A similar pattern can be observed with, for example, Riga municipal budget or nonfinancial investments in Riga. According to the Public reports of Riga municipality (Rīgas dome, 2003-2013), the income from income tax revenues was gradually increasing between 2002 and 2008, it dropped quite considerably in 2009 and increased only slightly over the couple following years (2010 and 2011). However, the situation has been improving in a more pronounced way again since 2012.

Based on data from the Central Statistical Bureau of the Republic of Latvia (2015), the nonfinancial investments in Riga have been growing in a fairly consistent manner from 1997 till 2008. There was a considerable drop in nonfinancial investments in 2009 (from 3627.6 million EUR in 2008 to 2414.6 million EUR in 2009) and in 2010 (decrease to 1536.7 million EUR which is comparable to the level of nonfinancial investments in Riga in 2000). After this setback, the data shows gradual increase reaching 2192.4 million EUR in nonfinancial investments in 2012, but it is still below the levels of annual investments experienced since joining the EU.

In conclusion, it can be said that the main impact of continuous populations loss in Riga manifests itself in the form of increasing number of degraded buildings and optimization of specific public infrastructure networks (like general education schools and libraries). Other aspects like decreasing municipal budgets cannot be solely attributed to the process of shrinkage as it is also affected by the global economic trends and the general economic situation in Latvia. For this reason, the focal topics in the context of urban shrinkage in Riga throughout this work will be structured around population dynamics, built environment, and public infrastructure as aspects that are relevant to the study.

4.2 Planning and development context in Riga

For understanding of the processes occurring in Riga since 1990, it is also necessary to look at the planning and development context in which they take place. Hence following

subchapters provide an overview of the emergence of the planning system and culture in Riga and Latvia as well as outline main development trends over the last couple of decades.

4.2.1 Emergence of planning system in Latvia

Latvia regained its independence and became a democratic country in 1990/91 which meant that it underwent a major political and economic transformation in a very short time. It also meant that urban planning or spatial planning, in general, was subjected to equally major changes. In fact, the whole planning system had to be developed anew. The beginning of this process can be found in 1991. The initial approach was to keep some elements of the Soviet planning practice as well as some elements from the pre-Soviet period. New planning legislation also incorporated international experience (mainly Danish) which was adapted to the constitutional system of the Republic of Latvia (Reģionālās attīstības un pašvaldību lietu ministrija, 2009).

The interviews with experts in planning revealed that the initial planning system was developed based on analysis of different planning systems across Europe. There was a seminar in Riga in 1992 where many European countries presented their planning systems. As a result, Danish planning system was selected as the basis for the new Latvian planning system. However, as it was clear that there will be many additional difficulties in future regarding privatization and other processes, also Canadian building regulations were adopted and made binding. Therefore, the early influences on planning in Latvia can be traced back to planning and building control practice in Denmark and Canada (INT_16, 26.04.2014).

The process of developing a planning system in Latvia is reflected through continuous changes in the legal framework - laws and regulations (Reģionālās attīstības un pašvaldību lietu ministrija, 2009). It is not necessary to review all normative acts related to spatial planning in Latvia since 1991, but it is useful to outline those that mark the evolution and significant changes in the planning system. Firstly, the government of the Republic of Latvia established two laws in 1991 – one on urban municipalities and one on rural municipalities. These laws stated that spatial planning and building control becomes a responsibility of local governments. At this point, municipalities did not have relevant experts or funds to deal with this new function, and the state did not provide additional support. Therefore, spatial planning was carried out mainly by outsourcing development of territorial plans to private consultancy companies (Reģionālās attīstības un pašvaldību lietu ministrija, 2009).

The first regulations on territorial planning (Cabinet regulations No. 194) were adopted in 1994. These regulations defined the planning system in Latvia, the competence of state and municipalities as well as society's rights to participate in the process of territorial planning. This planning system did not last long, and new law and Cabinet regulations

were established in 1998: Cabinet regulations (No. 62) on territorial plans (24.02.1998) and Territory Development Planning Law (30.10.1998). These regulations defined new planning system in Latvia and combined territorial and development planning in one set of documents for the first time (Reģionālās attīstības un pašvaldību lietu ministrija, 2009).

Next major changes took place in 2002 when Spatial Planning Law and Regional Development Law came into force. Spatial Planning Law (2002) was focused on spatial plans on different planning levels (national, planning region, district local government, and territorial local government levels), the hierarchy and interlinks of spatial plans, the competence of relevant public institutions, and other related aspects. The focus of Regional Development Law (2002) was on defining regional planning level (planning regions) and other planning documents (besides spatial plans) – national development plan, regional policy guidelines, and different development programs.

Following administrative territorial reform[9], a new law on development planning system (Development Planning System Law) came into force in 2009. It defines types and levels of the development planning documents, the hierarchy of the development planning documents, general guidelines for development planning process, and other aspects. The main difference is that the planning documents are developed at the national, regional and local levels, and the hierarchy of the planning documents reflects all types and levels of the planning documents. This law was succeeded by Spatial Development Planning Law in 2011 (in force since 2012), and it focuses in more detail on all three planning levels, respective planning documents, the competence of public institutions as well as public participation in spatial development planning. The overview of the current planning system in Latvia as defined in Development Planning System Law (2009) and Spatial Development Planning Law (2011) is illustrated in Figure 10.

As shown in Figure 10, the development planning documents are subordinated hierarchically based on temporal and spatial dimensions (e.g., mid-term documents are subordinated to long-term documents, and local planning documents are subordinated to national and regional planning documents). Also, the long-term and mid-term planning documents on regional and local levels have different objectives. The long-term development planning documents at the regional and local level are meant to define development priorities and spatial development perspective of the relevant territory, but the mid-term development planning documents – a set of measures necessary for the implementation of priorities (Development Planning System Law, 2009).

On a local level, there are two main long-term planning documents (Sustainable Development Strategy and Spatial Plan) and one mid-term planning document (Development

[9] As a result of administrative territorial reform, the district local government level was eliminated and the local municipalities were reorganized.

Programme). Additionally, municipalities can develop local plans (long-term planning document), detailed plans, and thematic plans[10] (not bound to a specific term of operation). Sustainable Development Strategy is meant to specify the vision, objectives, and priorities of the local government. This planning document is normally prepared for a longer period – up to 25 years. Spatial Plan is developed to specify the requirements for land use and building in the administrative territory of the local municipality and is usually prepared for a 12-year period. Finally, Development Programme (prepared for a 6-year period) describes mid-term priorities and the set of measures for the implementation of long-term strategic goals set out in the strategy (Spatial Development Planning Law, 2011).

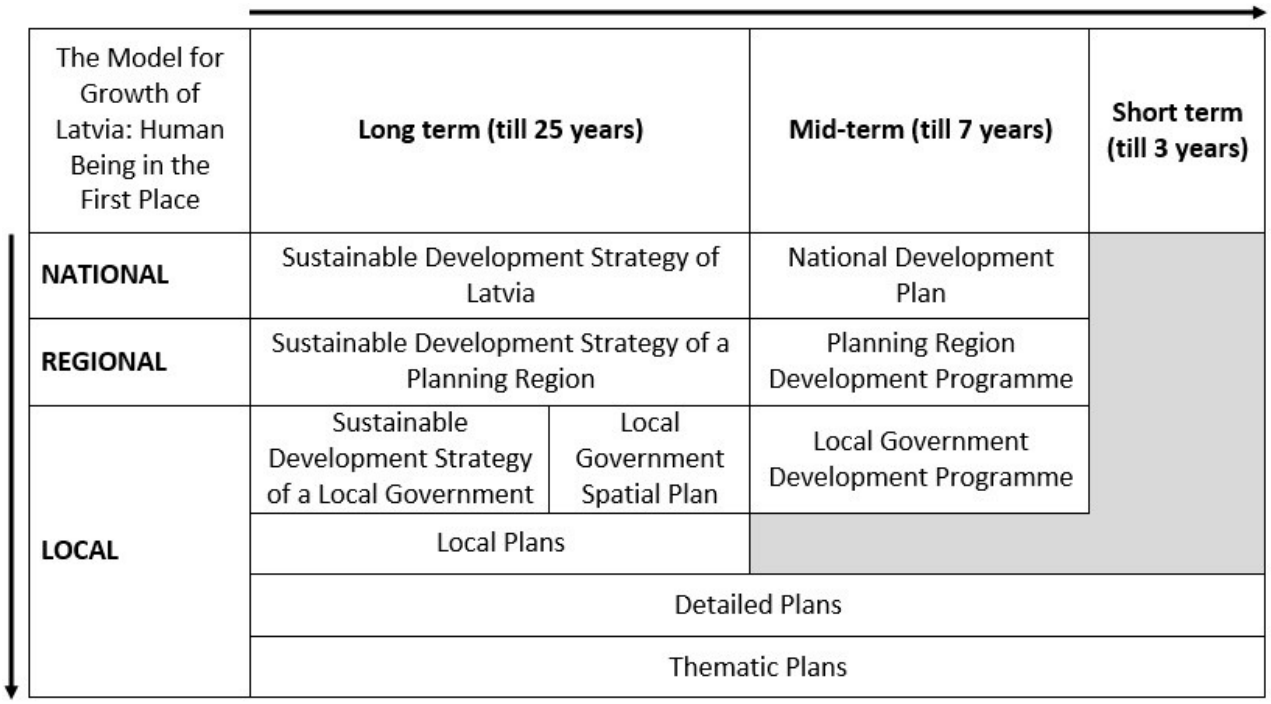

Figure 10 Planning system in Latvia (own illustration)

For addressing planning issues in more specific territories, the local government can prepare local plans or detailed plans. Local plan is developed to solve a planning task or to detail or amend a spatial plan in a specific part of the administrative territory of the local municipality. However, the detailed plan is prepared to specify the requirements for the use of the specific land units and building parameters as well as to adjust borders of land units and restrictions. Additionally, the local government can also prepare thematic plans to solve specific issues related to the development of separate sectors or specific themes (Spatial Development Planning Law, 2011).

[10] Thematic plans can also be developed for other spatial planning levels which is not reflected in the illustration.

It is also important to emphasize that from all these planning documents the local government spatial plans and local plans are approved by the binding regulations of the local government. However, the detailed plans are approved with a general administrative act, and it is in effect until it is canceled or repealed (Spatial Development Planning Law, 2011). This approach has been severely criticized by one of the experts and practitioners during the expert interviews (INT_16, 26.04.2014).

In conclusion, it has to be said that as the current planning system in Latvia is comparatively new, it has not yet been fully established on all planning levels (especially regional). Moreover, the research work has been carried out during the transition period when some of the defined development planning documents have not been prepared or renewed therefore it puts some limitations on providing a comprehensive analysis of strategic actions on all spatial scales.

4.2.2 Planning and development in Riga

Urban planning and development in Riga emerged alongside the national planning system and was affected by constant changes in the regulations. As a capital, it could be assumed that Riga was in a better position to establish urban planning and development practice in the new political and economic situation in the 90s, but it did not reduce the difficulties to plan for future in times of many changes and uncertainties. The preparation of the first Riga Development Plan 1995-2005 started in 1993. In the introduction of the Plan, it is said that the document has been developed “in the period of unique and radical changes when the city’s population is decreasing, the economic basis of Riga, property rights, and legal framework is changing, and appropriate city management structure is still sought for” (Rīgas pilsētas Dome..., 1995). There was also no national or regional plan that could be used as a starting point for strategic priorities or relevant statistical data that would allow preparing a research-based development plan. The authors were conscious of the many upcoming changes which extent they could not predict therefore it was already acknowledged in the introductory part of the planning document that necessary amendments should be incorporated in the next years (when city’s development trends will become clearer).

Riga Development Plan 1995-2005 consisted of two parts: (1) policy document (including a map of planned land use zoning in Riga) and (2) building regulations. The authors (team led by the architect and urbanist Andris Roze) had envisaged the Plan to be an integral policy document used by all institutions of Riga City Council, but the reality was slightly different. Roze (2004) admits in his reflections on the implementation of Riga Development Plan 1995-2005 that outside the Riga City Council’s institution dealing with planning in Riga at that time, the document was seen only as land use zoning plan and not taken into account by other institutions. The development policy was perceived as secondary or non-existent. However, it was not the only shortfall of the Plan or more pre-

cisely the application of the Plan in the real-life city development. To ensure the flexibility of Riga Development Plan 1995-2005 and relieve the bureaucratic procedure for making small adjustments to the Plan, it was allowed to make some changes based on the decision of Riga City Council's Development Committee. In reality, this was used to freely interpret what these adjustments should be resulting in significant amendments to the Plan without application of proper legal procedure on some occasions. In combination with other unfortunate conditions at that time (e.g., lack of human resources), this situation brought about development trends in Riga that have been characterized by Asaris (2004) as opportunistic. In general, there was a tendency to cater to the interests of investors and private proprietors that were more often than not in contradiction with the sustainable urban development. Possibly the most straightforward example of this development approach can be seen through the unjustified transformation of nature areas for other uses.

Soon after the adoption of Riga Development Plan 1995-2005, the historical center of Riga was included in the UNESCO World Heritage List (in 1997). As a result, issues related to conservation of cultural heritage in Riga gained more interest and a higher priority. In 2002, work on preparation of the Spatial Plan of the Riga historical center and its protection zone territory began. It was succeeded by the adoption of Law on Preservation and Protection of the Riga Historical center in 2003 and Cabinet regulations 'On Preservation and Protection of the Riga Cultural Centre' in 2004. The World Heritage status and following legal implications led to some constraints regarding development within Riga historical center and its protection zone. However, some much-criticized development projects still took place threatening to result in the loss of this status (another example of the free interpretation of the planning requirements by investors).

It is still much debated whether Riga historical center and its protection zone territory has been chosen adequately. It is clear that under rather strict regulations that require considerable financial investments for redevelopment or renovation of historical buildings, some areas might continue to decline. The situation is not made easier by the rather complex issue of proprietary rights (INT_18, 29.04.2014). Also, Asaris (2004) states that, on the one hand, there are people willing to protect each building that has reached a certain age, but, on the other hand, the national and local government does not have effective action programme (financial support) or clear guidelines on how to utilize these buildings.

Besides the Spatial plan of the Riga historical center and its protection zone territory, the preparation of the next Riga Spatial Plan was also initiated. Based on the changes in legislation, Riga City Council City Development Department was working on the development of three main planning documents: (1) Riga long-term development strategy 2025, (2) Riga development programme 2006-2012, and (3) Riga Spatial Plan 2006-2018 (including building regulations and land use zoning). The planning documents were

developed by a slightly different team (than the first plan), and the principle of continuity was not at the core of this process (Dripe, 2012).

In general, there were some improvements in the process of preparing the planning documents. First of all, it was more research-based due to better availability of statistical data and resources to conduct studies necessary for the development of such documents (e.g., on demographics, economic development, degraded territories, and others). Second, a rather extensive campaign of public involvement "Es daru Rīgu!"[11] was conducted during the preparatory stages and followed by public discussions before the adoption of the documents. Overall, the public participation level was considered high, but it has been much discussed whether the feedback from residents was taken into account. The reason is that the end product has been characterized by Dripe (2012) as pronouncedly liberal for Riga development and attraction of investments. In comparison to the first Riga Development Plan 1995-2005 that was rather general and crude for the existing legislation and understanding of that time, the second Plan is seen as very fragmented (INT_12, 23.04.2014) and on some occasions contradictory. For example, new development was intended in the areas next to neighborhoods without sewerage (Lejnieks, 2012).

It has to be understood that the Riga Spatial Plan 2006-2018 was developed and adopted in times of booming economy. The levels of investments were growing, and the proposed development projects were becoming more extensive and ambitious. Many of these projects never got implemented as the global economic crises hit Latvia and Riga. The remnants of some of these projects can still be seen in Riga in the form of abandoned construction sites.

After the economic crises had taken its toll, it became clear that the Riga planning documents are not relevant to the existing situation. The decisions to work on new or improved documents, however, came later. In 2011, Riga City Council decided to begin work on the next Riga Development Programme and update the Riga long-term development strategy 2025. The decision to start work on the new Riga Spatial Plan was made in 2012 (the completion, however, is expected in 2017). Interestingly, the update or amendments of the Riga long-term development strategy 2025 became a work on completely new strategy - Riga Sustainable Development Strategy 2030. However, the timeframe for development of the Strategy was kept unchanged, and it needed to be prepared in the same amount of time as was planned for the amendments (INT_10, 17.04.2014).

The resulting situation is such that the Riga Sustainable Development Strategy 2030 and Riga Development Programme 2014-2020 were adopted in May 2014, but the work on

[11] Approximate translation into English: "I make Riga!"

the new Riga Spatial Plan continues. There are once more some changes in the preparatory process and the end products of the Riga planning documents. For the first time, the Strategy has been developed including spatial component (previously it was only focusing on ideas and directions for action, not places), but the main idea that the Strategy is a general planning document was kept the same. The methodology or approach for developing the Spatial Plan has also been changed – the idea is to develop 11 thematic plans and then merge them together which should eventually result in a land-use zoning plan. According to the interviews with experts, there were some concerns whether it would be that simple and it can be now said that some difficulties have already been identified – there are thematic plans that in some ways are in competition (INT_12, 23.04.2014). The research base for the development of the Spatial Plan has also been expanded and now includes a variety of data on the district level. Additionally, it has to be pointed out that there is an ongoing campaign of public involvement "Esi daļa Rīgas!"[12]

In the broader context, the Riga Sustainable Development Strategy 2030 has been adopted before the regional strategy. This is, in a way, a by-product of changing planning system in Latvia. At the time this study was carried out, Riga and its surrounding municipalities had adopted or were planning to adopt their strategies in the future. As a result, the Strategy of the planning region can only be developed as a sum of already existing local strategies which is the opposite of what it should be – an overarching strategy guiding the development in the whole region. The situation has been justified by the lack of resources for public institutions on a regional level as well as time constraints that prevent them from working more consistently in accordance with the existing planning system (INT_12, 23.04.2014).

If looking at the content of already approved Riga planning documents (specifically Riga Sustainable Development Strategy 2030), it is possible to identify contradictory approaches for future development in Riga. On the one hand, the idea is to promote compact urban development which is in line with sustainability principles. It will be implemented through focusing a large part of the development in the core of the city (the city center and its adjacent districts) and facilitating reuse of degraded built-up areas. On the other hand, it is already possible to observe that the foreseen development in the core of the city will largely take place in one specific district (Skanste) where there are sufficient resources of the vacant and green land. In the Strategy, Skanste is promoted as the future Central Business District of Riga with high density built environment. It even goes as far as to suggest that there will be 28 thousand residents in Skanste by 2030 and it will offer a place for more than 40 thousand jobs (Rīgas domes Pilsētas attīstības departaments, 2014b). In this light, it is unlikely that the city center district or other adjacent districts that currently are subjected to increasing number of abandoned and de-

[12] Approximate translation into English: "Be part of Riga!"

graded buildings can expect a turn for better. Although similarly located and with better infrastructure, there are many constraints related to historical buildings and the UNESCO status, proprietary rights, and unfavorable social environment that makes these areas less interesting for investors. Moreover, although the investment levels in Riga are once again growing, they have not reached and are unlikely to reach pre-crisis levels before long which suggests that the development projects will be focused in the areas that have more favorable conditions for development. All in all, it is fair to say that the future development trends in Riga will follow the known pattern of growth-oriented development but to a lesser degree.

In conclusion, it has to be said that the search for the 'ideal plan' or planning approach continues. Some progress has been made since the first Riga Development Plan, and now it is not just a land-use zoning plan that can be fully ignored in the name of development. The planning has become more research-based, and the public participation is gaining more importance leading to the seemingly more transparent planning process. It is still far from the ideal as the overall development trends remain in contradiction with the principles of sustainable urban development. The reasons for that can be many and it is not the objective here to review them, but it is clear that the people planning Riga are also learning-by-doing (sometimes with minimum resources, time, and information). Moreover, there is a general notion that the plan is considered as something describing what can be or can happen in the city, not necessarily what will be there (INT_12, 23.04.2014). It gives an impression of planning as a process of setting a framework for urban development but ignoring the responsibility of guiding the development in the desired direction.

4.2.3 Riga districts: idea, purpose, and outcome

Another aspect that needs to be reviewed in the context of planning and development in Riga is the emergence of the concept of districts in the city. The idea of districts or *apkaimes*[13] for the first time appeared in the Riga Spatial Plan 2006-2018, but no one was working on actual implementation or promotion of this notion in planning practice in Riga at that moment. In 2007, borders for 58 districts were drawn after long discussions with planners and other experts (see Figure 11). It was done for analytical purposes applying logically identifiable obstacles to demarcate the borders. Almost all district names are historical (except one) and already previously used to refer to specific parts of Riga (INT_03, 02.04.2014).

[13] The direct translation of the Latvian word *apkaime* is neighborhood, but as it does not correspond to the traditional understanding of neighborhood as a geographically localized community, it will be termed district throughout the work to avoid unnecessary misunderstandings.

The definition of a district by RCC City Development Department is following: the inhabited environment of adequate size that has its own facilities, identity, and character emerging from the built environment, physical borders, landscape, and sense of community. The districts are not intended as administrative units (and do not function as such), but as an instrument for improving social infrastructure and ensuring more effective exchange of information with the residents (Rīgas domes Pilsētas attīstības departaments, 2009).

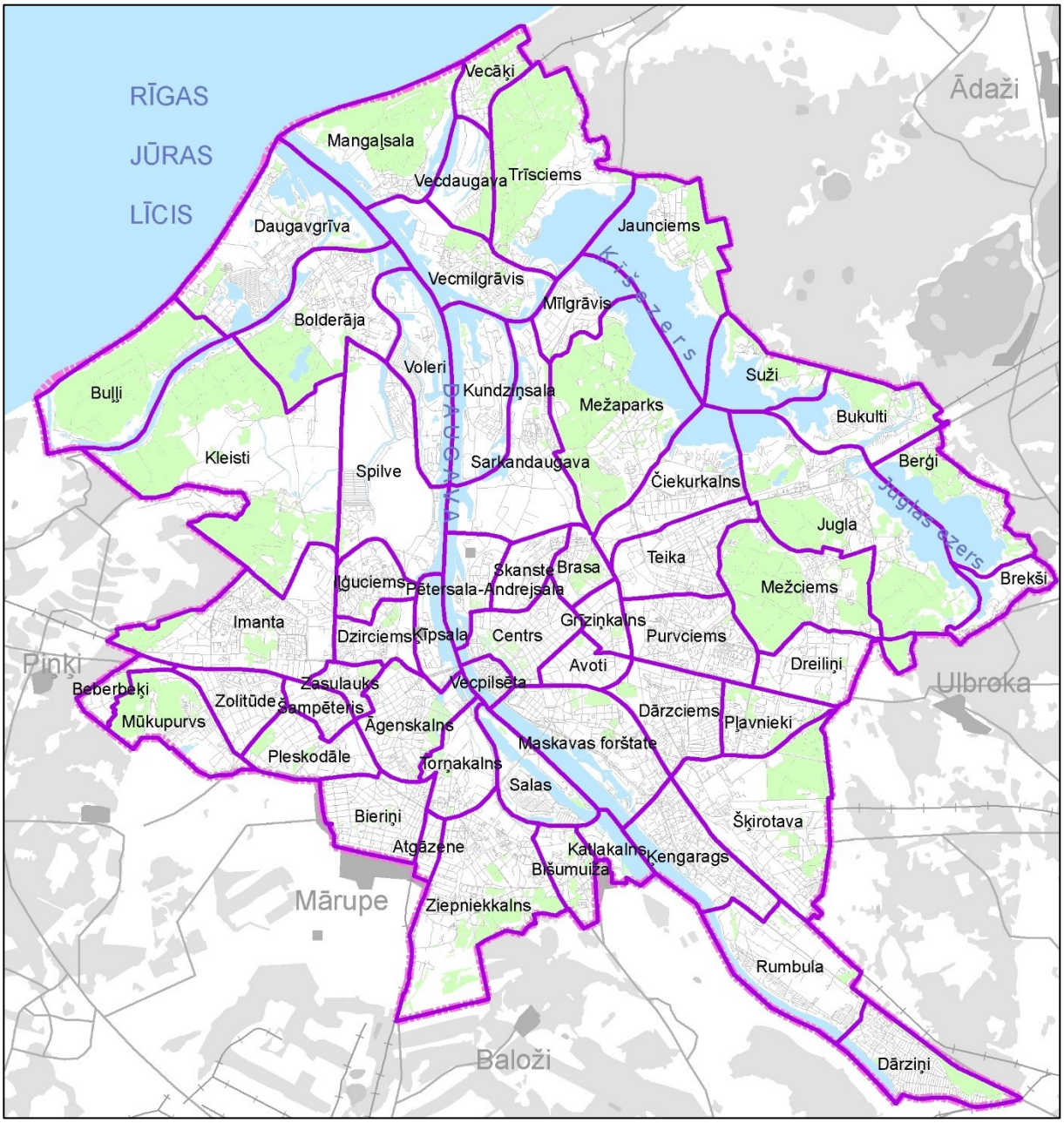

Figure 11 Map of Riga districts (Rīgas domes Pilsētas attīstības departaments, 2014)

The idea of districts was further promoted by launching a web page dedicated to Riga districts (http://www.apkaimes.lv) as well as acknowledgment of social component of these districts. It marked the beginning of a dialog between already existing local NGOs and RCC City Development Department which resulted in the organization of the first Dis-

trict Forum in 2008. The Forum was attended by approx. 90 people both associated and not associated with different NGOs.The outcome was a positive feedback on the idea of districts and the suggestion to strengthen the cooperation between the Riga City Council and residents. The second District Forum took place in 2011 when more local NGOs had already emerged. The Forum was directed towards the exchange of experience and learning. Since then, many NGOs and local activists are managing the exchange of experience themselves without the involvement of RCC (INT_03, 02.04.2014).

Besides the dialogue between relevant local government institutions and residents, the outcome of introducing the districts has been such that it has become a platform or concept used by many. For example, it has been taken as the basis for many activities for European Capital of Culture Riga 2014 as well as for the development of the next Riga Spatial Plan (INT_03, 02.04.2014). Regardless the increased application of this so-called platform, it can still be argued whether the adopted borders of the districts are adequate. Just by looking at the map it is rather obvious that the districts are very different. They differ not just in size and structure, but also in terms of the built environment, population, and other aspects. Also, when talking to the representatives of residents, it becomes clear that their idea of where the district borders are in some cases is slightly different from the official ones (INT_06, 09.04.2014).

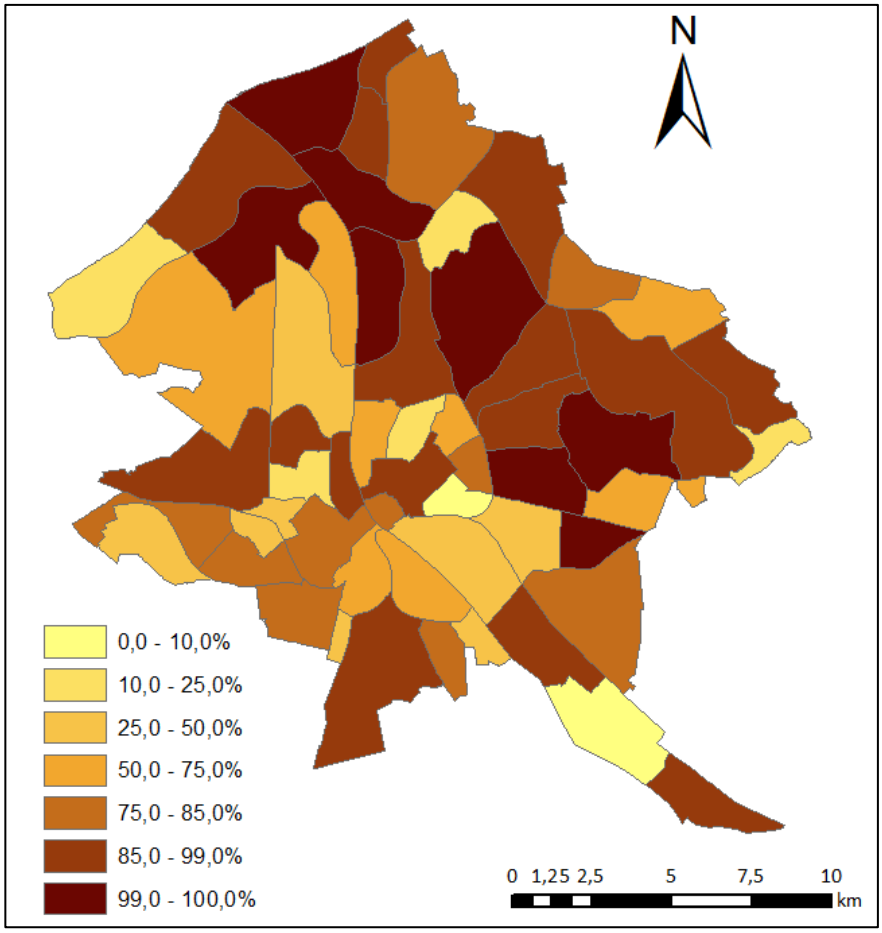

Figure 12 Results of residents' survey: percentage of respondents identifying themselves with the district of their residence (Data source: SIA "Aptauju Centrs" and SIA "Projektu un kvalitātes vadība," 2013)

The differences in perception of district borders have also been reflected in residents' surveys that were conducted in each district as a part of the research for the development of the next Riga Spatial Plan. The respondents were asked an open-ended question to name the district they are living in. The results are summarized in the map in

Figure 12. Interestingly, there were several districts (8 in total) where all respondents gave the name of a district also used in the concept of RCC City Development Department. A lot more were those districts where more than 85% of respondents named the actual district they were living in (16 in total). However, there were also districts where the residents' mostly identified themselves as living in another district, e.g., in Avoti only 3,7% said they live in Avoti and others mostly named neighboring districts. In total, there were seven districts where less than 25% of respondents identified the RCC City Development Department's defined district as their place of residence. Of course, there are more reasons for that than the unsuccessful choice of borders or district name, but these results still show the areas where the existing concept might need to be rethought.

According to the interviews, also some experts say that there is still room for improvements regarding the concept of Riga districts. Moreover, an opinion was expressed that currently, the idea of districts is still a vision because the districts are not a real part of the overall structure (they are not part of the political structure, there are no representatives from the districts in local government, and the districts are also not an administrative unit). In general, the idea of districts was not seen as bad, more as something that might gain greater significance in the future (INT_16, 26.04.2014).

In this study, the districts are used as the basis for selection of study areas (embedded units) and data analysis. Although the author is conscious that the existing district concept is not ideal and might put some constraints on the study, it is currently the only available concept that allows to gather and analyze data based on clearly defined geographical areas within Riga.

4.3 Mosaic of growth and shrinkage in Riga

There is a pattern of 'winners' and 'losers' in Riga or a pattern of growing, shrinking, and relatively stable districts in a city affected by urban shrinkage. This pattern the different responses to urban shrinkage in Riga and therefore is used as the basis for selection of the study areas (or embedded units of analysis). The following subchapters provide insights into the analysis of different aspects of this pattern and explain the rationale behind the selection of the specific districts.

The first two subchapters are dedicated to the identification of districts that have been affected by urban shrinkage - those that show signs of shrinkage like population loss, degradation of the built environment, and others. The third subchapter looks at other processes taking place in Riga (also in the shrinking districts) to identify those areas where different responses to urban shrinkage (other than decline) take place. Finally, the last subchapter summarizes the main conclusions and explains the reasons for choosing the specific study areas or districts as research units.

4.3.1 Pattern of population growth and shrinkage in Riga

As explained previously, Riga has been losing population since 1990, but it does not mean that all parts of Riga have been shrinking. Unfortunately, there is no available data on population in Riga districts for the whole period of population decline (from 1990 onwards), but there is data for the period from 1997 till 2010[14]. It allows analyzing the trends of population change in different Riga districts during the given period which also reflects the overall trends of population dynamics since 1990 in the majority of cases.

Firstly, it is useful to look at absolute population change in Riga districts between 1997 and 2010. As can be seen in Figure 13, the greatest population loss took place in the city center district – the population decreased by 32 285 residents between 1997 and 2010. No other district comes close to the city center district regarding absolute population decline as the next highest population loss can be identified in Avoti and it reaches -8402 residents in the same period. The majority of the districts that are losing population in absolute terms based on the given data can be classified as having lost less than 5000 residents between 1997 and 2010. Sixteen districts have experienced population loss between 4999 and 1000 residents or less than 1000 residents (13 districts). However, there are also 25 districts that have seen a population increase during this period.

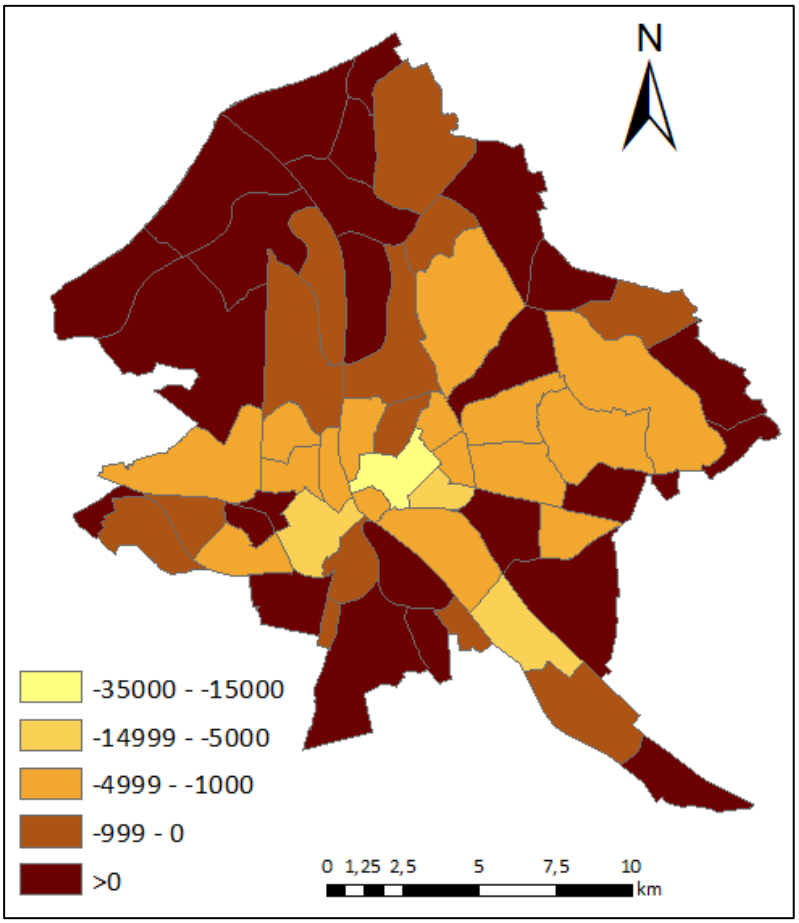

Figure 13 Absolute population change in Riga districts between 1997 and 2010 (own illustration; data source: Rīgas domes Pilsētas attīstības departaments, 2015a)

[14] More up-to-date data based on Census 2011 are also available on the district level, but they are not directly comparable with the previously released data set.

Spatially, the two districts that have lost the highest number of residents are located at the core of the city (the City Centre and its adjacent district Avoti). In fact, very few districts that have lost more than 1000 residents in the given period are located on the outskirts (close to the city border). Similarly, only a few districts that have experienced population increase are located near the core of the city.

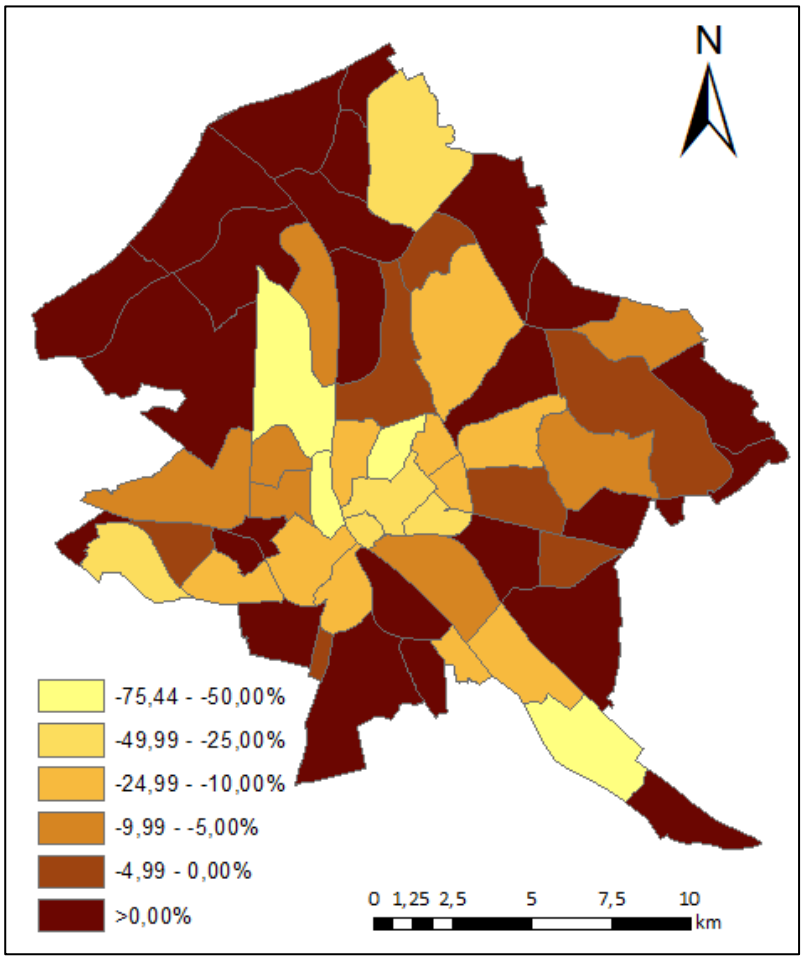

Figure 14 Relative population change in Riga districts between1997 and 2010 (own illustration; data source: Rīgas domes Pilsētas attīstības departaments, 2015a)

If analyzed as a relative population loss between 1997 and 2010, a slightly different pattern emerges. As can be seen from Figure 14, there are four districts that have lost more than 50% of their population in the given period. It might seem a lot, but neither of these districts had a large number of the population already in 1997. Therefore a loss of 100 residents appears as relatively high. Moreover, among these four districts are also those (e.g., Skanste) that in recent years have already seen the implementation of several development projects that should result in an eventual increase of the population.

There are also five districts that have lost more than quarter (25-49.99%) of their population over the 13-year period. Among these are three districts at the very core of the city – the city center, the old town, and Avoti which shows an overlap with the previously described pattern of absolute population change.

Besides these districts with comparatively high levels of population decline, there are nine districts that have lost between 10% and 24.99% of their population, seven districts that have lost between 5% and 9.99% of their population, and only six districts that have lost less than 5% of their population. Spatially, data on relative population change show a slightly more pronounced decrease of population in the core of the city indicating a risk of developing doughnut effect in the overall structure of Riga (a notion also expressed in the interviews with relevant experts; INT_12, 23.04.2014).

4.3.2 Pattern of other signs of shrinkage in Riga districts

To fully understand the pattern of shrinkage in Riga, it is not sufficient to look only at the population data as it provides an incomplete picture of the processes occurring within the city (and only for a limited period). Therefore, additional analysis of available secondary data on district level as well as controlled expert group discussion (based on Delphi method) has been carried out. The focus mostly has been on different aspects of built environment and public infrastructure that allows identifying other patterns of shrinkage in Riga.

First of all, it is worth looking at expert opinions on shrinking Riga districts. During the controlled expert group discussion, six experts were asked to name Riga districts that exhibit signs of urban shrinkage[15]. The answers included a total of 20 different Riga districts (see Figure 15). The majority of them were single opinions (13 districts) and only in case of one district (Maskavas forštate) a consensus has been achieved (all six experts have mentioned it as a district exhibiting signs of shrinkage). Interestingly, this is not a district that has experienced high population decline based on the available data.

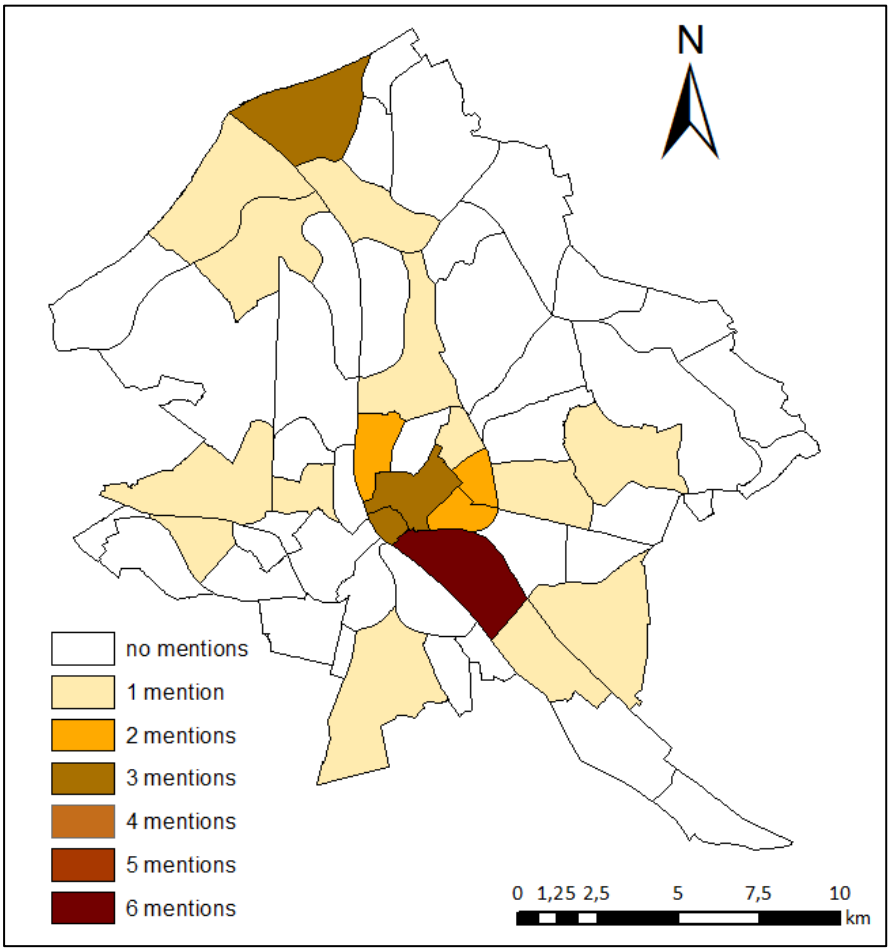

Figure 15 Results of controlled expert group discussion: shrinking districts in Riga (own illustration)

[15] The experts were provided with a list of characteristics of urban shrinkage: population loss, thinning-out of public infrastructure, increase of uninhabited living space, increase of vacant retail space, increase of number of abandoned buildings and land, degradation of urban environment, changes in land use, decline in investments.

Additionally, 3 other districts have been mentioned by half of the expert group, and 3 more districts have received two mentions. Among these districts are those that are located in the core of the city – the city center district, the old town, and Avoti. These districts have lost more than quarter of their population between 1997 and 2010 which indicates some consistency regarding shrinkage between population data and expert opinions. However, review of more specific characteristics of shrinkage allows analyzing other patterns that give a broader understanding of different processes taking place in Riga.

Built Environment

The most visible signs of shrinkage in the urban environment are linked to the built environment. Similarly to the population decline, aspects like degradation of the built environment, residential and retail vacancies do not emerge evenly throughout the city.

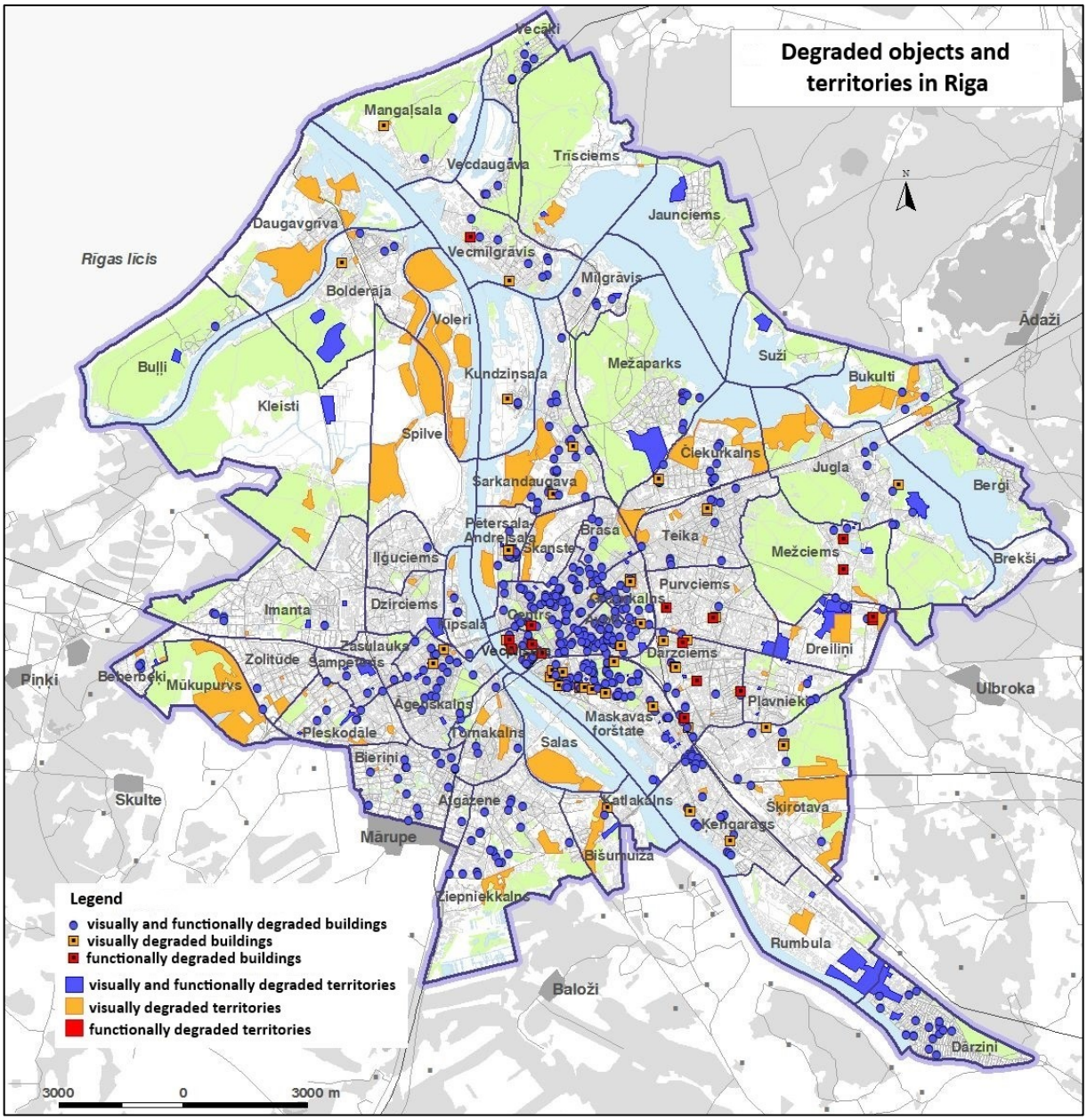

Figure 16 Spatial distribution of degraded objects and territories in Riga (SIA "Datorkarte", 2012a; modified)

When looking at spatial distribution of degraded objects and territories (see Figure 16), it is possible to see that the concentration of degraded buildings is much higher in the core of the city, especially in the city centre district, Avoti, the old town, and Maskavas forštate (in the part adjacent to the city centre and Avoti). A very similar pattern also emerges when mapping environment degrading buildings listed by the RCC Property Department in December 2013.

Taking into account the limited availability of data on vacancies in Riga, this question was posed to the expert group. As a result, the experts mentioned 12 districts in Riga where there is a pronounced problem of uninhabited residential buildings and 13 districts where there is a comparatively high concentration of vacant retail space (see Table 9). Overall, there are some similarities as well as differences among these two sets of districts.

Table 9 Districts in Riga with a pronounced problem of uninhabited residential buildings and with a comparatively high concentration of vacant retail space (own compilation)

Districts with a pronounced problem of uninhabited residential buildings		**Districts with a comparatively high concentration of vacant retail space**	
Centrs	5	Avoti	5
Maskavas forštate	5	Maskavas forštate	5
Bolderāja	3	Centrs	4
Vecpilsēta	3	Grīziņkalns	2
Daugavgrīva	2	Sarkandaugava	2
Avoti	1	Brasa	1
Brekši	1	Daugavgrīva	1
Dārziņi	1	Ķengarags	1
Dreiliņi	1	Ķīpsala	1
Grīziņkalns	1	Mūkupurvs	1
Sarkandaugava	1	Pētersala – Andrejsala	1
Vecmīlgrāvis	1	Purvciems	1
		Zolitūde	1

Almost all experts (5 out of 6) named the city center and Maskavas forštate as two districts where there is a problem with residential vacancies. Moreover, half of the expert group also suggested Bolderāja and Vecpilsēta (or the old town) as districts where such problem exists (all the other districts that were mentioned were mostly single opinions). Similarly, Maskavas forštate and the city center were mentioned by five and four experts respectively as districts where there is a comparatively high concentration of vacant retail space. Additionally, Avoti has been named by almost all experts as a district where retail vacancies are a problem. Spatially, nearly all districts that have been named by at least half of the expert group as having a problem with uninhabited residential buildings or retail vacancies are located in the core of the city (except Bolderāja) and mirror the pattern of spatial concentration of degraded buildings shown in Figure 16.

Besides the data on degraded buildings and expert opinions on vacancies in Riga districts, it is also interesting to look at survey results on residents' satisfaction with the built environment (streets, public spaces, and buildings) in their districts. Overall, the survey of residents' satisfaction was carried out in 39 (out of 58) districts. The results (see Figure 17) show that in 32 districts residents are more satisfied than dissatisfied with the built environment, and in 7 districts residents are more dissatisfied than satisfied with the built environment. Among the latter are two districts that have been mentioned before - Maskavas forštate and Bolderāja. At the same time, it is also interesting to observe that there are no districts in Riga where residents are very satisfied with the quality of the built environment.

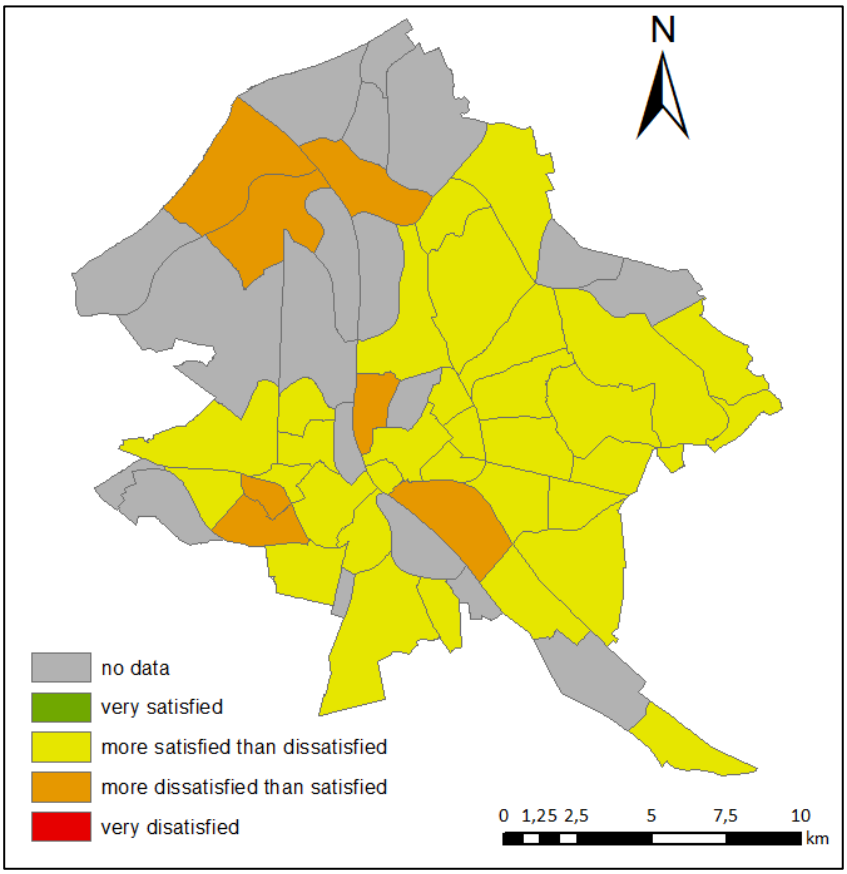

Figure 17 Residents' satisfaction with the built environment in their district (own illustration; data source: SIA "Latvijas Fakti", 2013)

To summarize, there is a fairly consistent set of districts where a greater concentration of negative effects of shrinkage on built environment occurs. Most of these districts are located in the core of the city – the city center, the old town, Avoti, and Maskavas forštate. Additionally, Bolderāja emerges as a district where there is a pronounced problem of uninhabited residential buildings according to experts and residents are more dissatisfied than satisfied with the existing built environment.

Public infrastructure

The existing data on population change and quality of the built environment in Riga demonstrate fairly clear patterns on the district level, but the same cannot be said about the thinning-out of public infrastructure. Overall, there has been some decrease in the number of education and culture facilities in the city, but there is no precise data how this process has manifested itself on the district level. Consequently, the question asking to name those districts that have a comparatively low accessibility to basic services was posed to the experts during controlled expert group discussion. Unfortunately, the discussion also didn't yield usable results. In total, the experts named 19 districts where there

might be low accessibility to basic services, but the majority of them were single opinions. There was only one district that was mentioned by five experts (Dārziņi), but from the development trends taking place in this district, it is clear that the low accessibility to basic services is not related to the process of shrinkage. On the contrary, the district has seen one of the highest relative increases of the population that indicates lack (not thinning-out or shrinkage) of public infrastructure.

Besides the controlled expert group discussion, there is data on residents' satisfaction with the accessibility to different facilities or services (e.g., schools and primary health care facilities) by SIA "Latvijas Fakti" (2013) and a study on quality and availability of different services in Riga districts by SIA "Datorkarte" (2012b). The results of residents' survey show that on average there is high satisfaction with the accessibility to general education institutions (residents are very satisfied on average) and comparatively high satisfaction with the accessibility to primary health care facilities (residents are more satisfied than dissatisfied on average). It also shows on districts level – in 18 (out of 39 surveyed) districts residents were very satisfied with accessibility to general education institutions and in 21 district – more satisfied than dissatisfied. Also, in 27 districts the residents were more satisfied than dissatisfied with accessibility to primary health care facilities, in 5 districts – very satisfied, and only in 7 districts – more dissatisfied than satisfied. Overall, these results do not show any great deficiencies regarding schools and healthcare facilities which prevents drawing conclusions on thinning-out of public infrastructure.

The study conducted by SIA "Datorkarte" (2012b) is based on analysis of spatial distribution of different facilities and services in Riga districts. They looked at the percentage of residents living in the proximity of these facilities (a radius of 300 m is applied for general education facilities and primary health care facilities and a radius of 1000 m – for culture facilities and libraries). This approach allows to get a general overview of the situation in Riga districts at a specific point in time but also has some deficiencies.

For example, Figure 18 shows accessibility and quality of general education facilities in Riga districts. There are 22 districts where such facilities are not provided. It might seem a lot, but quite often it is a case when the district has a comparatively low number of residents (insufficient for establishing a school) or has seen an influx of residents fairly recently, and the relevant public infrastructure has not yet been provided. Moreover, this overview does not take into account such aspects as students' mobility (not all students from the districts go to the school from the same district) which plays a considerable role in Riga.

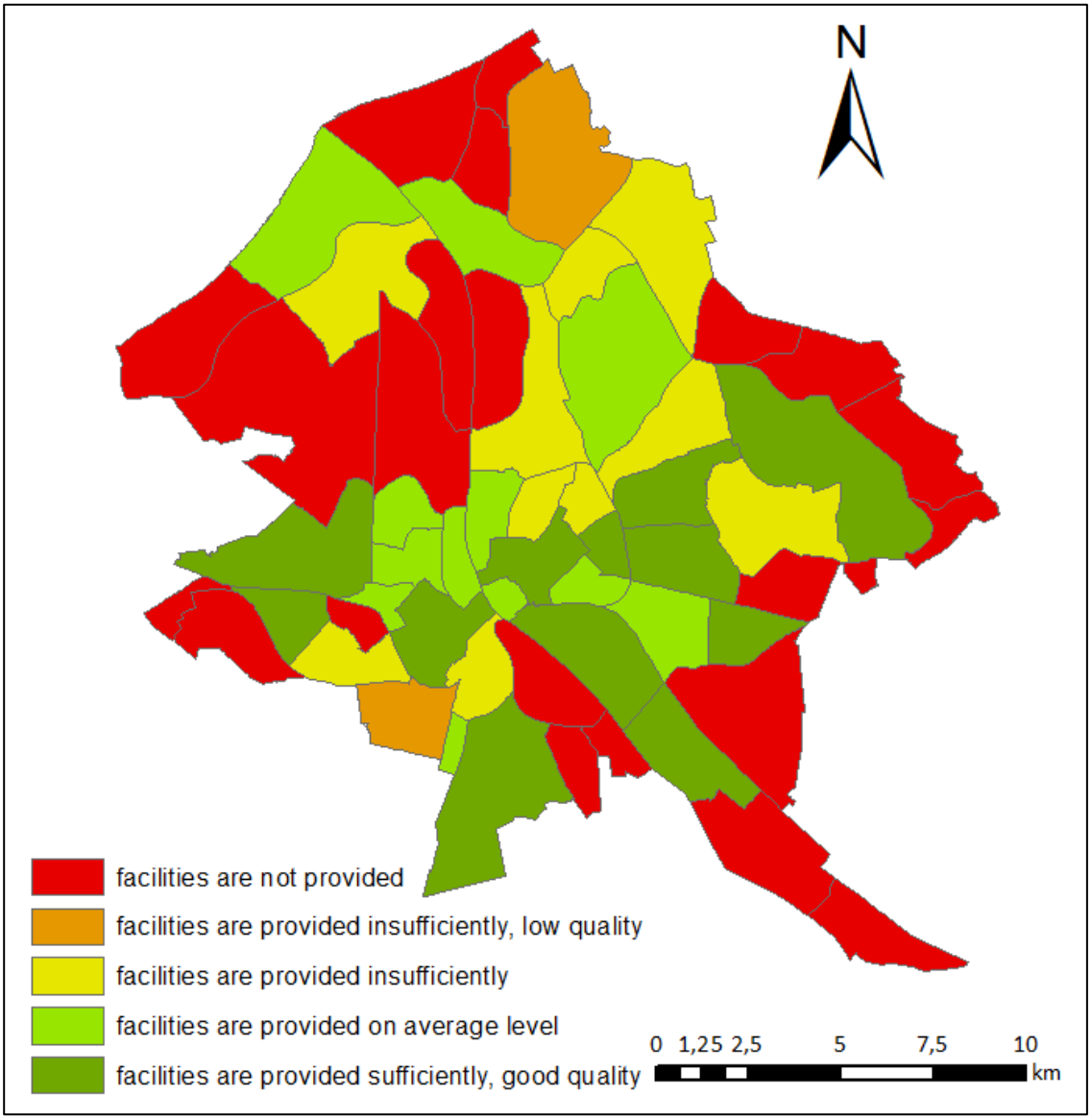

Figure 18 Accessibility and quality of general education institutions in Riga (own illustration; data source: SIA "Datorkarte", 2012b)

Regardless these deficiencies, the assessment of provision of general education facilities also provides some interesting insights. For example, districts like Sarkandaugava, Brasa, Bolderāja, and some others have been categorized as districts where general education facilities are provided insufficiently. Taking into account that these districts do not fall into the same group as those where facilities are not provided at all (due to population or development trends), it might be a sign of possible thinning-out of public infrastructure. It would require more in-depth analysis of each specific case to be able to draw more precise conclusions. A similar inconclusive outcome can be obtained when analyzing the assessment results of quality and accessibility to primary health care facilities, libraries, and culture facilities, therefore, it will not be described here.

Finally, it was also attempted to obtain some information on the possible decrease in economic activity in Riga districts through the controlled expert group discussion. The experts were asked to name districts that have seen a considerable decrease in econom-

ic activity. In total, the experts named 19 different districts. Only one district (Sarkandaugava) was mentioned by five (almost all) experts and one more district (Pētersala-Andrejsala) - by three experts. The remaining 17 districts were mentioned by one or two experts (mostly single opinions). It is difficult to judge how accurate these results are as there is no other data that could give further insights into the topic. It can be assumed that Sarkandaugava has been put on top of the list due to extensive industrial areas that are located within the district and the probable decrease in their use. At the same time, it was interesting to see that districts like Avoti (that has a problem with retail vacancies according to the same expert group) was mentioned only by two experts.

In conclusion, the available data provide a relatively clear picture on the pattern of growth and shrinkage in Riga regarding population as well as allows to identify those districts that are subjected to degradation of the built environment. The thinning-out of public infrastructure, although identified in the city as a whole, does not show a clear pattern on the district level due to lack of consistent data. Nevertheless, the data and information reviewed in the last two subchapters allow to narrow down a list of those districts that could be of interest as study areas. Among them there is the city centre district, Avoti, and the old town (all three have been subjected to population decline and degradation of urban environment), Maskavas forštate (associated with several aspects of shrinkage by experts and subjected to degradation of urban environment), Bolderāja, and Sarkandaugava (both districts have been linked with some characteristics of urban shrinkage by at least half of the expert group and emerged as potentially subjected to thinning-out of public infrastructure based on the available secondary data).

4.3.3 Other identifiable processes in Riga districts

In the previous chapters, the discussion was largely focused on urban shrinkage or aspects of shrinkage in Riga and its districts. But not all districts are just shrinking. The districts, where the population is growing, have already been indicated in the discussion on population trends in Riga and are not of great interest in the context of this work. However, to avoid focusing only on shrinking districts, it is necessary to determine also those areas that show some signs of processes linked with transformation or adaptation in response to shrinkage to be able to select study areas that correspond to the main theoretical concept of this work. For this purpose, the controlled expert group discussion included questions focusing on Riga districts that exhibit signs of major changes in functional or structural identity (transformation) over the last 10-20 years and those that have remained relatively unchanged (stable) during the same period (a notion similar to the outcome of adaptation).

Districts exhibiting signs of transformation

The process of transformation was introduced to the experts as one of the opportunities for significant changes caused by urban shrinkage. In this context, they were asked to list

those districts that have undergone fundamental changes in their functional and/or structural identity during the last 10-20 years. The answers included a total of 15 different Riga districts. Only in the case of one district (Skanste), a consensus (all six experts have mentioned it as a district that has seen fundamental changes in its functional and/or structural identity during the last 10-20 years) has been achieved. One other district was mentioned by half of the expert group, but the remaining 13 districts have received one or two mentions. All in all, the results demonstrate that there is a considerable variety of answers but a lack of strong consensus on a greater number of districts. It is, therefore, useful to take into account subsequent questions that address more specific aspects associated with transformation.

As changes can manifest themselves in many ways, the experts were first asked to name those districts where fundamental changes in land/property uses have been implemented during the last 10-20 years. In total, the experts named 16 different districts. One district (Skanste) was mentioned by all experts, two (Pētersala-Andrejsala and Pleskodāle) were mentioned by four experts, and one more (Ķīpsala) – by three experts. The remaining 12 districts were mentioned only by one or two experts (mostly single opinions).

Furthermore, the experts were asked to list those Riga districts where most significant development projects have been implemented during the last 10-20 years. In this case, there was a total of 11 different answers, and three districts were mentioned by five or six experts. Interestingly, those were the same districts that have already been mentioned before (e.g., Skanste that was mentioned by six experts also in both previous questions). Additionally, one district (Maskavas forštate) was mentioned by four experts and another one (the city center) – by three experts. The remaining six districts were mentioned by one or two experts.

Finally, the experts were also asked to name those districts for development of which a comparatively large amount(s) of financial investments were successfully attracted. In total, the experts mentioned 14 different districts. Two of the districts were named by five experts and two more – by four experts. One more district was mentioned by three experts, but the remaining nine districts – by one or two experts. All in all, the results are consistent with the answers to the previous questions as can be seen in the summary of non-single opinions in Table 10.

As can be seen from Table 10, the districts that have most likely undergone fundamental changes associated with the process of transformation are Skanste, Pleskodāle, and Ķīpsala. Additionally, Maskavas forštate and the city center have repeatedly been mentioned. At the same time, these results had to be treated with caution as not all these districts associated with transformation have also been affected by shrinkage. Some of them might be a product of growth-oriented development which also requires changes in

land use, implementation of significant development projects, and comparatively large investments.

Table 10 Results of controlled expert group discussion: districts in Riga that exhibit signs of transformation (own compilation)

Districts that have undergone fundamental changes in their functional and/or structural identity		Districts with fundamental changes in land/property uses in the last 10-20 years		Districts where most significant development projects have been implemented in the last 10-20 years		Districts for development of which comparatively large amount(s) of financial investments were successfully attracted	
Skanste	6	Skanste	6	Pleskodāle	6	Pleskodāle	5
Dreiliņi	3	Pētersala-Andrejsala	4	Skanste	6	Skanste	5
Centrs	2	Pleskodāle	4	Ķīpsala	5	Centrs	4
Dārziņi	2	Ķīpsala	3	Maskavas forštate	4	Ķīpsala	4
Ķīpsala	2	Centrs	2	Centrs	3	Maskavas forštate	3
Maskavas forštate	2	Maskavas forštate	2	Dreiliņi	2	Vecpilsēta	2
Mežaparks	2			Imanta	2		
Pleskodāle	2			Teika	2		
Teika	2						

In the case of transformation, a full assessment of the processes taking place in these districts cannot be carried out with the available secondary data. For example, population data shows population loss between 1997 and 2010 in all five districts. However, it is known that transformation on its own can also lead to population decline (e.g., when transforming a residential area into mixed-use or commercial area). Therefore, to verify the adequacy of the given districts as examples of transformation in response to shrinkage, further insights into the actual situation on site needed to be obtained via structured site visits.

Based on the site visits, it became clear that districts like Skanste and Pleskodāle are examples of urban expansion through the transformation of green space and vacant land. They have been or still are undergoing functional and structural transformations in large parts or throughout the district, but the process is taking place due to other factors and preconditions than those caused by urban shrinkage, and it is an example of growth-oriented development approach in Riga. The case of Ķīpsala and Maskavas forštate, however, is more complex than the others. Ķīpsala exhibits signs of different processes occurring within its territory. In some parts, it is possible to observe a similar transformation process to the one identified in Skanste and Pleskodāle, in other parts – there are signs of transformation based on the redevelopment of built-up areas or adaptation based

on renovation and modernization of the existing building stock. It suggests that Ķīpsala has a potential to be an interesting study area where several processes take place.

Maskavas forštate, in its turn, is a district that is shrinking in some parts but developing in others. It is related to the fragmented character of the district which allows for several processes to take place in one area at the same time. Essentially, those parts of Maskavas forštate that are being newly developed exhibit the same pattern of growth-oriented development as Skanste and Pleskodāle, but some redevelopment projects can also be identified in the shrinking parts of the district. Therefore, to include the districts that show potential for exploring the process of transformation as a response to urban shrinkage, both Ķīpsala and Maskavas forštate were selected as study areas.

Districts exhibiting signs of stability

Finally, the experts were asked to identify those areas that have been able to maintain their identity or character relatively unchanged over the years to get some opinions on Riga districts that might be adapting to urban shrinkage. It was initially explained that in some cases it is sufficient to implement small changes or improvements (that do not fundamentally change the area's functional and structural identity) for the district to become adjusted to the general changes in the city and continue existing with comparatively unchanged identity. In this context, the experts were required to name examples of Riga districts that have been able to maintain their functional and structural identity over the last 10-20 years.

First of all, the experts were asked to name positive examples of stable districts (those districts that are considered socially advantageous and successful). Second, they were asked to name the negative examples of stable districts (those districts that are considered socially disadvantageous and with low quality of life). All non-single opinions for both categories are summarized in Table 11.

Table 11 Results of controlled expert group discussion: stable districts in Riga (own compilation)

Positive examples of stable districts		Negative examples of stable districts	
Bieriņi	4	Maskavas forštate	5
Vecāķi	4	Bolderāja	4
Āgenskalns	3	Daugavgrīva	3
Teika	3	Dārziņi	2
Vecpilsēta	3	Pļavnieki	2
Centrs	2	Purvciems	2
Mežaparks	2		

Overall, the experts named 12 positive examples and 15 negative examples of stable districts. Among the positive examples, there were no districts that were mentioned by five or six experts, but there were five districts that have received three or four mentions.

From these districts, the structured site visits were organized in Bieriņi and Vecāķi to get more insights into the processes taking place on-site. In both cases, the site visits revealed that the districts have succeeded in maintaining their character comparatively unchanged over the last decades. However, it has been accomplished by allowing or promoting specific development trend – building of private family houses (continuing with the previous development path). It is another example of development on green spaces or vacant land that has no association with urban shrinkage or adaptation.

When looking at negative examples of stable districts, it is interesting to see that Maskavas forštate has been mentioned by almost all experts and Bolderāja by four experts. Both these districts have already been discussed in the context of shrinkage (and also transformation in the case of Maskavas forštate) in Riga although their relative population change between 1997 and 2010 shows relatively low population decline (Maskavas forštate) or very slight population increase (Bolderāja). The suggestion of these districts as being stable by experts prompted further interest in the processes occurring in these areas. The structured site visits organized in these areas also confirmed the eligibility of these districts to be selected as the study areas; therefore both districts had been chosen as the embedded units of analysis.

4.3.4 Summary: selecting the study areas

Through analysis of different aspects of shrinkage as well as other processes taking place in different Riga districts, it has been possible to narrow down the districts that are potentially interesting for further in-depth research. In total, those were seven districts: the city center (Centrs), the old town (Vecpilsēta), Avoti, Maskavas forštate, Bolderāja, Sarkandaugava, and Ķīpsala. Some of these districts have emerged as potential study areas in all or several categories (e.g., Maskavas forštate and Bolderāja), others have been associated with specific characteristics of different processes. However, due to the specific character and the role of the city center and the old town in the whole structure of Riga as well as comparatively more complex processes taking place in these areas, it has been decided to exclude them from further research. As a result, further analysis will be done in 5 different Riga districts that altogether represent a variety of processes occurring in the city, including shrinkage, transformation, and relative stability (see Figure 19).

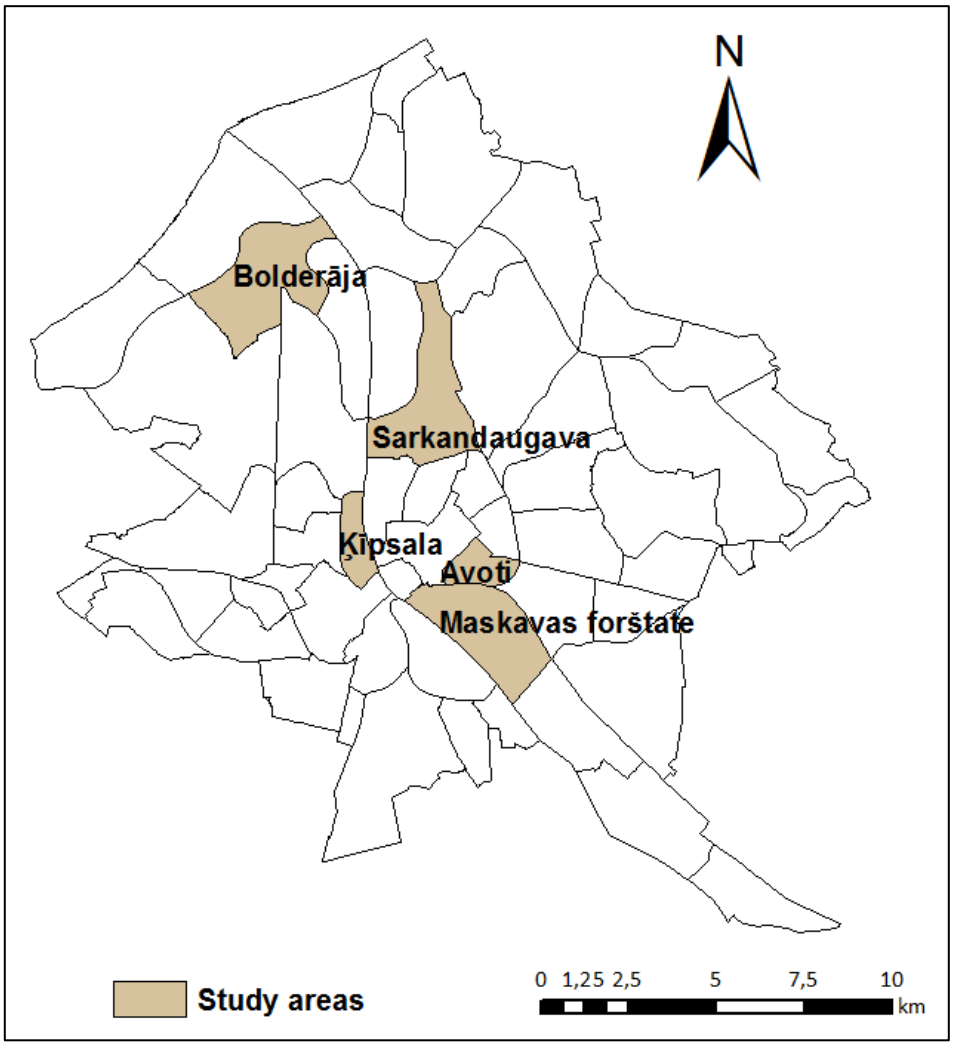

Figure 19 Selected study areas in Riga (own illustration)

4.4 Specific features of study areas

The objective of this chapter is to provide a reader with a better understanding of the context in which further research is being conducted. It gives an overview of the characteristics of the study areas, their population dynamics, built environment, and public infrastructure as a background information for analysis of responses to urban shrinkage and sources of resilience. It has to be also emphasized that the idea is not to compare the different districts, but to illustrate main similarities and differences. The chapter is structured based on the three main topics of interest indicated before and concluded with a summary of main aspects.

4.4.1 Population dynamics

All five districts differ regarding population and population change between 1997 and 2010. According to the latest available data (Rīgas domes Pilsētas attīstības departaments, 2015a), the district with the highest number of residents (from the study areas) is Maskavas forštate (31 918 residents). The population in the remaining four districts range between nearly 20 thousand residents in Avoti to just above 1000 residents in Ķīpsala: Avoti – 19 710 residents, Sarkandaugava – 17 862 residents, Bolderāja – 12 994 residents, and Ķīpsala – 1104 residents in 2014. The differences in population are related to the size of each district as well as the existing building stock and land use.

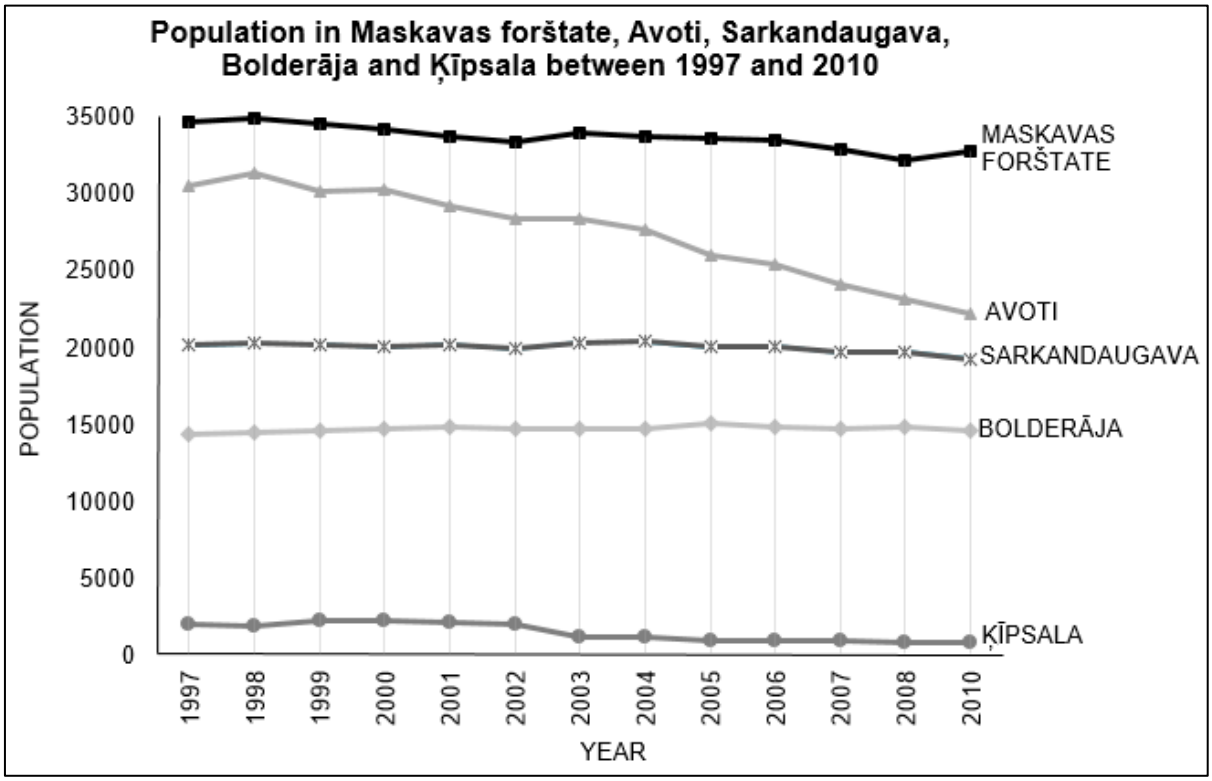

Figure 20 Population in the five study areas (districts) in Riga between 1997 and 2010 (own illustration; data source: Rīgas domes Pilsētas attīstības departaments, 2015a)

Regardless of the availability of comparatively recent population data, the analysis of population dynamics for each district was conducted using the data set for the period from 1997 till 2010. The overall changes in population in all five districts are reflected in Figure 20. Due to rather great differences regarding the number of residents in each district, the visualization of the trends in one graph does not fully show the level of population changes (especially in the case of Ķīpsala). Nevertheless, it provides general insights into population dynamics in the selected districts for the given period, e.g., it can be deducted that Avoti has suffered continuous population loss whereas population in Sarkandaugava and Bolderāja has remained relatively stable.

Additional analysis of annual population change has been conducted to explore the overall population trends in each district in more detail. Moreover, relative annual population change has been compared to that of Riga for the same period which allowed to classify the districts as losing, gaining or retaining population (an approach based on Mykhnenko & Turok (2007) and Beauregard (2009)). The main results and conclusions are summarized in Table 12.

In general, there are two districts that have been losing population between 1997 and 2010 (Avoti and Ķīpsala) and three districts where the process of population retention or stabilization has taken place (Maskavas forštate, Sarkandaugava, and Bolderāja). Moreover, in the case of Bolderāja, it is possible to speak about very slight population increase. At the same time, it is difficult to predict whether some changes in these population trends could happen after 2010. Possibly in the case of Ķīpsala, some population growth can be expected as a result of the implementation of several (residential) development projects, but it is unlikely that the initial number of residents will be reached.

Table 12 Characteristics and trends of population dynamics in all five study areas (districts) in Riga between 1997 and 2010 (own compilation; data source: Rīgas domes Pilsētas attīstības departaments, 2015a)

District	Population change (1997-2010)	Population dynamics: characteristics and trends
Maskavas forštate	- 1858 - 5.37%	The population dynamics in Maskavas forštate follow a certain pattern – a year of slight population increase (e.g., in 1998 and 2003) followed by several years of population decrease (e.g., between 1998 and 2002 and between 2003 and 2008). In other words, the general trend can be characterized by population decrease, but some short periods of stabilization or population increase can be observed. Overall, Maskavas forštate has lost 5.37% of its population in 13 years which is a comparatively low rate (in comparison, Riga has lost 15.6% of the population during the same period). Therefore, it can be classified as population 'retainer' regardless the negative population balance.
Avoti	- 8402 - 27.55%	The population dynamics in Avoti can be characterized by a period of continuous population loss (except in 1998 and 2000 when there was a slight increase in the number of residents). In total, Avoti has lost 8402 inhabitants or 27.55% of its population in 13 years which in relative terms is well above the population loss experienced in Riga during the same period. Therefore, it is possible to conclude that Avoti demonstrates a trend of population decline.
Sarkandaugava	- 926 - 4.6%	The population dynamics in Sarkandaugava can be characterized by fluctuations in the number of residents - there have been continuous changes between short periods (not longer than 2 years) of decreasing and increasing number of residents. Although the overall balance for the 13-year period is negative, Sarkandaugava can be categorized as retaining population as the relative population loss of 4.6% is considerably lower than that of Riga during the same period.
Bolderāja	+ 256 + 1.79%	The population dynamics in Bolderāja can be characterized by a period of slight growth (between 1997 and 2001) followed by fluctuating periods of growth and decline (changing periods of up to 2 years of increasing and decreasing number of residents). Overall, Bolderāja has gained 256 inhabitants or 1.79% in 13 years, but the population gain is too small for the district to be considered a 'gainer.' Therefore, Bolderāja can be classified as a district that is stable regarding population change with a tendency for slight growth or a 'retainer.'
Ķīpsala	- 1155 - 58.4%	The population dynamics in Ķīpsala can be characterized by a short period (2 years) of growth between 1998 and 2000 which was followed by a period of continuous population loss till 2008 and a process of stabilization between 2008 and 2010 characterized by a slight population gain. The greatest annual decrease was between 2002 and 2003 when Ķīpsala lost 37.63% of its population in one year. In total, Ķīpsala has lost 1155 inhabitants during the 13-year period. Therefore, it is categorized as losing population.

4.4.2 Built environment

As mentioned before, the selected districts also differ regarding size, land use, building stock, and structure. Overall, three of the selected districts are relatively large – Bolderāja (8.329 km^2), Sarkandaugava (7.596 km^2), and Maskavas forštate (7.594 km^2). The remaining two districts cover considerably smaller area – Avoti (1.815 km^2) and Ķīpsala (1.975 km^2). The general description of the built environment, land use, and spatial structure of each district is provided in the first part of this chapter, but aspects related to the characteristics of urban shrinkage (e.g., vacancies and degradation of built environment) are summarized in the second part.

General description of the built environment in the selected districts

Maskavas forštate. Maskavas forštate is a comparatively large and complex district. It cannot be considered as a homogeneous and functionally linked urban area, and it is unlikely that it will develop as a joint territory also in the future (SIA “Metrum,” 2007). Overall, it is possible to identify at least 4 different parts of Maskavas forštate: (1) territory between railway, Lāčplēša iela, and Krasta iela that largely functions as extension of the city centre; (2) territory on both sides of Krasta iela as urban commercial space designated for car owners; (3) historical part of Maskavas forštate between Maskavas iela and railway; and (4) territory with mostly residential blocks in the South Eastern part of the district (around Lubānas iela, Salaspils iela, and Slāvu iela). All these parts have a different character of the built environment and functional use.

The territory between railway, Lāčplēša iela, and Krasta iela is very diverse, and it is hard to define dominating building type or use. A big part of the area is dedicated to commercial function (including Riga Central market). It also includes Riga International Coach Station, Latvian Academy of Sciences, and other significant and historical buildings and objects. The rest of this territory has fairly mixed building stock that is comprised of low-rise wooden houses, pre-war multi-story masonry buildings (from the end of the 19th century or the beginning of the 20th century), and several Soviet time buildings (own observations, 2013).

The historical part of Maskavas forštate has a great number of buildings with historical value. In total, there were 350 historical buildings identified in Maskavas forštate in 2005 (Biedrība "Ideju Māja," 2008). In general, the built environment is comprised of low-rise wooden houses, pre-war multi-story masonry buildings (from the end of the 19th century or the beginning of the 20th century), and few Soviet time buildings (own observations, 2013). A completely different character of the built environment can be found in the territory around Krasta iela. The development of this area started in the 1990s in the form of intense construction of office and commercial buildings (Biedrība "Ideju Māja," 2008).

Finally, the territory in the South Eastern part of the district can be mainly characterized by multi-story residential panel housing built in Soviet times as well as few masonry build-

ings from the beginning of the 20th century (own observations, 2013). Moreover, it has to be mentioned that due to the complexity of the district, it is hard to identify one main center. Some elements of local centers can be observed in several locations within Maskavas forštate (SIA “Metrum,” 2007).

Avoti. Avoti is a district adjacent to the city center, and it is partially included in Riga historical center. There are no clearly identifiable borders between the city center and Avoti district and the built environment largely resembles the one found in the city center. It can be characterized by high density, a rectangular urban fabric which is marked by more or less valuable buildings, and streets and spaces of the yards are strictly separated (Lejnieks, 1989).

Avoti is a comparatively small district, and it can continue to develop as spatially and functionally united urban area. The only part of Avoti that has considerably different character is the industrial area that is located in the South Eastern part of the district (SIA “Metrum,” 2007). Additionally, the district does not have an identifiable local center, most likely due to its nearness to the city center (own observations, 2013).

As mentioned before, Avoti has more or less valuable building stock. The majority of the historical buildings found in this area are built during the turn of the 19th and 20th century and at the beginning of the 20th century. The district can be characterized by buildings of late Art Nouveau architecture as well as old wooden architecture. Unfortunately, the latter nowadays is generally in quite a poor condition (Biedrība "Ideju Māja," 2008). Besides the historical buildings, there are also few examples of Soviet time and modern architecture (own observations, 2013).

Sarkandaugava. The spatial structure of Sarkandaugava is complex, and it cannot be perceived as spatially and functionally united urban area. Some of its parts are primarily dedicated to Riga Freeport or other industrial activities that are in contrast with the residential parts of the district (SIA “Metrum,” 2007). Even historically, Sarkandaugava has been one of the areas in Riga that has been primarily structured by the industrial development (Lejnieks, 1989).

Besides the fairly extensive industrial areas, Sarkandaugava has an identifiable core area with a local center. The built environment in this part of the district can be characterized by a great number of old buildings. Many of them are built between the 1860s and the beginning of the 20th century (Biedrība "Ideju Māja," 2008). The majority of the oldest buildings are low-rise (2-storey) wooden houses that are currently scattered among newer development or, in some cases, are grouped on one side of the street. Other buildings are mainly built in Soviet times. Those are mostly multi-story (5- or 6-storey, in some cases also 9-storey) residential buildings of various design and quality. They can be found throughout the core area of Sarkandauga, but with greater concentration in the North Eastern part of the district (own observations, 2013).

Bolderāja. The built environment and the spatial structure of Bolderāja were initially influenced by its location (near river Daugava), but later by the industrial development (Biedrība "Ideju Māja," 2008). In general, Bolderāja has several parts: green space area that is mostly covered by woods, industrial areas, and the residential part of the district. Residential areas can be further divided by their character and building stock: (1) residential area with the detached housing; (2) residential housing (village) for factory workers (built in the 1950s); and (3) multi-story panel housing (built in the 1960s). Another structural element of Bolderāja is its local center.

The residential area with detached housing has developed around the oldest part of Bolderāja. It currently has very diverse building stock ranging from significant historical wooden buildings to recently built family houses (own observations, 2013). The residential area for factory workers was built in the 1950s for the nearby brick factory (Biedrība "Ideju Māja," 2008). The building stock is mostly comprised from 2- till 4-storey brick apartment buildings (own observations, 2013). The multi-story panel housing takes up a fairly large area and was planned for 15 000 residents (Biedrība "Ideju Māja," 2008). The buildings have from 6 to 9 stories, and they slightly differ in their design as the area has been developed in stages. The quality of building stock seems to be comparatively poor for the majority of panel houses. Nevertheless, it is interesting to see that new multi-story buildings are still being constructed in this area (own observations, 2013).

Ķīpsala. Ķīpsala is an island; therefore, it is easier to associate it with a spatially and functionally united territorial unit (SIA “Metrum,” 2007). However, when Vanšu Bridge was built across Daugava (opened in 1981), it visually and functionally separated the Southern end from the rest of the island territory (Biedrība "Ideju Māja," 2008). Since then, the differences between these parts of Ķīpsala and the overall fragmentation of the island have increased.

The Southern part of Ķīpsala is currently dedicated to the public, commercial, and office use (Biedrība "Ideju Māja," 2008). There is a great mix of building types and styles including fundamental Soviet time buildings, buildings from the 1990s, and more recent and modern buildings that are defining ‘the new face’ of Daugava left bank. Among all these large and complex constructions, it is also possible to find few historical buildings. Moreover, this area can be considered as a local center (around the main public transport hub near Vanšu Bridge) due to the shopping opportunities and the access to public transport (own observations, 2013).

At the end of the 90s, row houses were developed in Ķīpsala. Nowadays they create a barrier or transition zone from the Southern part of the island to residential and historical part of Ķīpsala (Biedrība "Ideju Māja," 2008). The residential part of the island can be characterized by low-rise (up to 3 stories) residential buildings of various types and quality. It is possible to see both detached houses and low-rise apartment buildings construct-

ed in different time periods and different states of repair (from ruined and abandoned buildings to completely new or recently renovated houses). The most valuable building stock in this part of the district is comprised of the renovated wooden buildings which have become a touristic destination (own observations, 2013).

Finally, the northernmost end of the island is dedicated mostly to industrial use which adds another dimension to the already fragmented character of Ķīpsala (own observations, 2013).

Summary. As can be understood from the general description of the built environment and spatial structure of the districts, there are some similarities as well as very clear differences among the five districts. In general, each district has its particular character and challenges. Interestingly, two of the districts have fairly extensive industrial areas (Sarkandaugava and Bolderāja) that have also affected the development of the residential areas over the years (similar development trend but on a smaller scale can also be identified in Avoti). Historical building stock and the challenges associated with the maintenance and renovation of these buildings is of greater importance in Maskavas forštate, Avoti, and also Ķīpsala although there are considerable differences regarding development trends related to these buildings. In contrast, Bolderāja can be characterized by comparatively extensive areas of Soviet-time residential building stock that are not found in a similar configuration in other four districts. Finally, relatively recent development trends associated with commercial and office uses can be observed in some parts of Maskavas forštate and Ķīpsala.

Characteristics of the quality of built environment in the selected districts

Taking into account the differences and specific characteristics of the built environment in each district, it is interesting to analyze the available data on vacancies and degradation of the built environment as an indicator of urban shrinkage. Firstly, information on dwellings without occupants (Central Statistical Bureau…, 2013), degraded territories and buildings (SIA "Datorkarte," 2012a), and environment degrading buildings (Rīgas domes Īpašuma departaments, 2013) for each district are summarized in Table 13.

Percentage of dwellings without occupants is the only available data providing some indication of the residential vacancy level in Riga (collected during Census 2011 by Central Statistical Bureau). There have been suggestions that it does not reflect the real situation due to the existence of gray real estate market (INT_12, 23.04.2014); therefore, the data need to be treated with caution. Essentially, it shows that approximately one-sixth of all the conventional dwellings in Riga is unoccupied. This rate is higher in three of the selected study areas – Avoti, Ķīpsala, and Maskavas forštate. In the case of Avoti and Maskavas forštate, it can be an indication of the higher concentration of the residential vacancies due to shrinkage (similarly to a higher rate of degraded buildings that will be discussed later). However, in the case of Ķīpsala, it can also be an indication of the tran-

sition period when new residential projects have been completed, but not yet occupied. Unfortunately, there is no data that could help to verify this assumption.

Table 13 Data on dwellings without occupants, degraded territories, degraded and environment degrading buildings in all five study areas (districts) and Riga (own compilation; various sources)

District	Dwellings without occupants (2011)	Degraded territories (total, 2012)	Degraded buildings (2012)		Environment degrading buildings (2013)	
			total	per 1 km^2	total	per 1 km^2
Riga	16.79%	192	567	1,87	463	1,52
Maskavas forštate	21%	18	66	8,69	61	8,03
Avoti	30.64%	2	47	25,9	30	16,53
Sarkandaugava	14.96%	3	24	3,16	10	1,32
Bolderāja	10.24%	6	4	0,48	9	1,08
Ķīpsala	29.94%	2	4	2,03	11	5,57

In contrast to these three districts, the rate of dwellings without occupants is considerably lower in Bolderāja and slightly lower in Sarkandaugava than in Riga on average. It resonates with the population dynamics in these districts that indicated a comparatively stable number of residents over the years (with a slight increase in the case of Bolderāja).

Data on degraded territories is also incomplete (it does not provide information on the areal coverage of these territories); therefore, it cannot be fully used for analysis of the existing situation. However, based on a spatial illustration of this information (see Figure 16), it can be said that more extensive degraded territories are found in Bolderāja and Sarkandaugava. In Sarkandaugava, these are mostly industrial territories, but in Bolderāja – mostly nature areas and allotment gardens (SIA “Datorkarte,” 2012a).

The information on degraded buildings and environment degrading buildings (where areal coverage does not play such a great role) can be analyzed as a number of buildings per 1 km^2 which also allows to compare it with the average rate for the whole city. Unsurprisingly, the highest rates of degraded and environment degrading buildings appear in Avoti and Maskavas forštate (it has been discussed before that the degraded buildings are spatially more concentrated in the core of the city). The rates for both districts are several times higher than that of Riga average (especially for Avoti) indicating that degradation of building stock is a significant problem in these areas. In contrast, the lowest rate of degraded and environment degrading buildings among all five districts is in Bolderāja – it is below the city average level suggesting a comparatively good quality of the existing building stock. However, this conclusion has to be treated with caution as the quality of Soviet-time panel housing (the dominant housing type in Bolderāja) is known to be decreasing with time which was also reflected in own observations on site.

Due to differences in methodology, the data on degraded and environment degrading buildings in Sarkandaugava and Ķīpsala show slightly different results. Essentially, the rates are comparatively close to the city average (except the rate of environment degrading buildings in Ķīpsala which exceeds the average city rate more than three times) suggesting that the visible signs of urban shrinkage in these districts might not be so widespread.

Additionally, it is useful to look at results of residents' survey by SIA "Aptauju Centrs" and SIA "Projektu un kvalitātes vadība" (2013) to complement these conclusions. During the survey, the residents in each district were asked to name things that they do not like in their district as an open-ended question. Some of the answers were focusing on aspects of the built environment. For example, 55.2% of respondents in Avoti have mentioned 'old, unkempt houses, ruined buildings' as one of the things they do not like in their district. Similar answers including 'unkempt buildings,' 'ruined buildings,' and 'state of the buildings' were also named in all other districts: by 21.8% of respondents in Maskavas forštate, by 17.8% - in Bolderāja, by 14.8% - in Sarkandaugava, and by 14% - in Ķīpsala. Furthermore, 'state of streets and pavements' or 'bad pavements, roads' has been mentioned as a negative aspect in all five districts. It appears to be an especially serious issue in Bolderāja where 44.8% of respondents have named it as something they do not like about their district. This aspect has not been so dominant in other study areas. It has been mentioned by 11.2% of respondents in Ķīpsala, by 4.7% respondents in Sarkandaugava, by 4.1% of respondents in Maskavas forštate, and only by 1.6% of respondents in Avoti.

In Sarkandaugava, respondents have also mentioned 'dirtiness, unkempt, abandoned objects' (16.6%) as something negative in their district. In Avoti, more than one-third of the residents (34.5%) are concerned with the issue of 'inner yards lacking adequate facilities.' The 'state of inner yards' or 'unkempt inner yards and parks' have also been referred to by residents of Sarkandaugava (9.8%) and Maskavas forštate (2.8%) respectively. Finally, 16.9% of Ķīpsala residents are dissatisfied with 'lack of amenities, bad living conditions.'

To sum up, the negative aspects of districts regarding the built environment that have been mentioned by the residents reflect some of the conclusions already drawn from data on degraded buildings and own observations. As could have been expected, more than half of the respondents in Avoti have referred to issues with existing building stock as something they do not like about their district. However, it is interesting to see that around one-sixth of the respondents in Bolderāja and Sarkandaugava have also picked up the same issue although the rates of environment degrading buildings in 2013 have been below Riga average in both cases. Other aspects like quality of streets and pavements, inner yards, and parks also seem to be of importance in some if not all five districts. Essentially, all of these aspects cannot be unanimously attributed to urban shrinkage, but

they have to be taken into account as indicative of certain processes and actions (or lack of actions) in these areas.

4.4.3 Public infrastructure

Further differences among the five districts can be found regarding accessibility and availability of public infrastructure. Analysis of such aspects as a network of public transport, availability of education, culture, and primary health care facilities provides a general overview of the existing situation.

Accessibility of the selected districts with public transport has been characterized as very good in most cases and average in others by SIA “Metrum” (2007). In reality, the situation is slightly more complex than that. Essentially, there are three districts where it can be said that the accessibility with public transport is very good – Sarkandaugava, Avoti, and Maskavas forštate. However, even in these districts (except Avoti), there are areas that cannot be easily reached with the public transport – the highly industrialized Southern part of Sarkandaugava and Krasta massif in Maskavas forštate. Fortunately, these are not residential areas; therefore, residents’ satisfaction with the public transport network in their districts is good. According to the residents’ survey (SIA "Aptauju Centrs" & SIA "Projektu un kvalitātes vadība," 2013), 68.7% of respondents in Sarkandaugava, 83% of respondents in Avoti, and 69,6% of respondents in Maskavas forštate are fully satisfied with the public transport network in their district. Also, 26.7% of respondents in Sarkandaugava, 12.5% of respondents in Avoti, and 26.9% of respondents in Maskavas forštate are rather satisfied with the existing public transport network which results in high level of overall satisfaction with the public transport system among the residents of all three districts.

The situation in Bolderāja and Ķīpsala needs to be discussed in slightly more detail. According to SIA “Metrum” (2007), the accessibility of Bolderāja with public transport has been characterized as average, but the accessibility of Ķīpsala – as very good in the Southern part of the district and non-existent in the Northern part of the district. In both cases, this situation is determined by several specific features of the districts. First of all, it has to be emphasized that from all five districts Bolderāja is located furthest away from the city center and the time to reach different destinations in the central part of Riga most likely will exceed 20 min (especially with public transport). Also, large areas in Bolderāja district are non-residential (nature or industrial areas) which has had an impact on the development of the public transport network in the district. At the same time, the public transport network in the residential parts of Bolderāja can be considered as adequate which is also reflected through residents’ satisfaction with the public transport network in the district. 24.3% of respondents are fully satisfied, and 54.8% are rather satisfied with the public transport network in Bolderāja (SIA "Aptauju Centrs" & SIA "Projektu un kvalitātes vadība," 2013).

Ķīpsala, in its turn, has been characterized by clear inequality between the Southern and Northern part of the district regarding the provision of public transport. Overall, there is one public transport stop in the Southern part of the island which ensures good and fast public transport connections to the city center and other districts. However, the residents' survey revealed that for 46% of the respondents it takes more than 10 min to reach the nearest public transport stop. This situation at least partially is caused by the lack of physical links between Ķīpsala and surrounding districts as there are no other bridges (besides Vanšu Bridge) that connect the island with the rest of the city. The territorial inequalities have also been reflected in residents' satisfaction with the public transport network in the districts – 29% of the respondents are fully dissatisfied whereas 24.1% of the respondents are fully satisfied with the public transport network in Ķīpsala. Moreover, 20.1% of respondents are rather dissatisfied and 13.8% of respondents – rather satisfied with the existing public transport network in the district (SIA "Aptauju Centrs" & SIA "Projektu un kvalitātes vadība," 2013).

Besides the public transport services, accessibility can also be characterized by the availability of different public services and facilities that are essential for the everyday life of residents. As already discussed in previous chapters, there is comparatively little information available on social infrastructure in Riga. However, some insights can be gained based on the survey carried out by SIA "Latvijas Fakti" (2013) on residents' satisfaction with the accessibility to different facilities and the study done by SIA "Datorkarte" (2012) on quality and availability of different services and facilities in Riga districts. The relevant results from both studies are summarized in Table 14.

The survey on residents' satisfaction with different municipal facilities and services (SIA "Latvijas Fakti," 2013) do not reveal great dissatisfaction with existing services in the four districts for which the data is available. However, the residents seem to be less satisfied (more dissatisfied than satisfied) with pre-school education institutions in Maskavas forštate, Bolderāja, and Sarkandaugava and with primary health care services in Maskavas forštate. Lack of a sufficient number of pre-school education facilities is a known problem in the city in general as has been mentioned before (and not resulting from thinning-out of social infrastructure). The reasons for comparatively low satisfaction with primary health care facilities in Maskavas forštate are unclear. It could be related to differences in spatial distribution of these facilities throughout the district due to fragmented character of the area, but it is unlikely that it stems from thinning-out of public infrastructure associated with urban shrinkage.

The study conducted in 2012 by SIA "Datorkarte" (based on analysis of spatial distribution of different facilities and services in Riga districts and the percentage of residents living in the proximity of these facilities) indicates some problem areas in Sarkandagava, Bolderāja, and Ķīpsala. The data shows that there were no culture facilities in Bolderāja and no library in Ķīpsala. The latter is due to the relatively small number of residents in

the district; therefore, it cannot be considered an actual problem (similar conclusion can be drawn regarding the insufficient provision of pre-school education facilities and primary health care facilities in Ķīpsala). The lack of cultural facilities in Bolderāja, however, indicates an area of potential improvement to meet the needs of residents, but it has not been caused by thinning-out of public infrastructure. More interesting is to see that there was an insufficient provision of general education facilities in Sarkandaugava and Bolderāja as well as an insufficient provision of primary health care facilities in Bolderāja.

Table 14 Overview of data on public infrastructure in all five study areas (districts) in Riga (own compilation)

District	Residents' satisfaction with the accessibility to different facilities (SIA "Latvijas Fakti," 2013)[16]			Quality and availability of different services and facilities in Riga districts (SIA "Datorkarte," 2012)[17]				
	Availability of pre-school education facilities	Availability of general education facilities	Availability of primary health care facilities	Pre-school education facilities	General education facilities	Libraries	Culture facilities	Primary health care facilities
Riga	2.64	1.75	2.32	na	na	na	na	na
Maskavas forštate	2.88	1.59	2.56	3.5	3.5	3.5	4	3.5
Avoti	2.45	2.05	2.26	3	3	3.5	4	4
Sarkandaugava	2.92	1.50	2.50	3.5	2	3.5	3.5	3
Bolderāja	2.69	1.64	1.88	3.5	2	3.5	0	2
Ķīpsala	na	na	na	1	2.5	0	3.5	1

There is little data available on processes related to changes in the number of public infrastructure facilities in all five districts. From the interviews, it becomes clear that some changes have happened in Sarkandaugava – closure of culture house "Draudzība" in 2009 and merger of two 'Russian' schools into one. Furthermore, a continuous decrease in the number of pupils in local 'Latvian' school raises concerns related to possible closure in the future (INT_15, 25.04.2014). One school had also been reorganized in Avoti in

[16] Categories: 1.00-1.75 – very satisfied; 1.76-2.50 – more satisfied than dissatisfied; 2.51-3.25 – more dissatisfied than satisfied; 3.26-4.00 – very dissatisfied; na – data not available

[17] Categories: 0 – facilities are not provided; 0.1-1 – facilities are provided insufficiently, low quality; 1.1-2 – facilities are provided insufficiently; 2.1-3 – facilities are provided on average level; 3.1-4 – facilities are provided sufficiently, good quality; na – data not available

2013 – it has been transformed into a primary school from a secondary or high school (from a 12-grade school to a 9-grade school).

Due to lack of information, it is difficult to say if similar changes have also happened in Maskavas forštate or Bolderāja or with other public infrastructure facilities (e.g., primary health care facilities). However, in Ķīpsala opposite process has taken place - a private international school was opened in 2001 to fit the demands and requirements of the wealthy society that is residing in the district. International School of Riga cannot be compared or put into the same category as public schools due to the high attendance fees that make it inaccessible for families with average or low-income levels.

4.4.4 Summary: profiles of the study areas in Riga

The previous subchapters describe the specific characteristics of the selected study areas (districts) in Riga with a focus on population dynamics, built environment, and public infrastructure. The relevant aspects are summarized in Table 15 to provide a reader with a comprehensive overview of main characteristics that reflect the situation in each district.

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Table 15 Profiles of the study areas in Riga (own compilation; various data sources)

Characteristics		Maskavas forštate	Avoti	Sarkandaugava	Bolderāja	Ķīpsala
Size (area, km²)		7.594	1.815	7.596	8.329	1.975
Location		City core, adjacent to the city center	City core, adjacent to the city center	City core/ semi-periphery	Semi-periphery/ periphery	City core, island in river Daugava
Population dynamics	Population (2014)	31 918	19 710	17 862	12 994	1104
	Population density (2014)	4203 inh./km²	10 859.5 inh./km²	2351.5 inh./km²	1560.1 inh./km²	559 inh./km²
	Abs. and rel. pop. change (1997-2010)	-1858	-8402	-926	+256	-1155
		-5.38%	-27.55%	-4.6%	+1.79%	-58.4%
	Trend	Population retention	Population loss	Population retention	Population retention	Population loss
Built environment	Spatial structure	fragmented	spatially united	fragmented	fragmented	fragmented
	Dwellings without occupants (Census 2011)	21%	30.64%	14.96%	10.24%	29.94%
	Environment degrading buildings (rate per 1 km², 2013)	8.03	16.53	1.32	1.08	5.57
		Approx. 5x higher than Riga Avg.	Nearly 11x higher than Riga Avg.	By 0.2 lower than Riga Avg.	By 0.44 lower than Riga Avg.	Approx. 3.5x higher than Riga Avg.
	Results of residents' surveys (2013)	21.6% - dislike 'unkempt old buildings'	55.2% - dislike 'old unkempt buildings, ruins'	14.8% - dislike 'condition of residential buildings, ruins'	17.8% - dislike 'unkempt buildings, yards, ruins'	14% - dislike 'condition of buildings, old buildings'
Public infrastructure	Time to reach the closest public transport stop (2013)	For 70.7% – up to 5 min	For 80.2% – up to 5 min	For 71% – up to 5 min	25.5% - up to 5 min; 20.3% - 5-8 min; 32.5% - 8-10 min; 20% - >10 min	46 % - >10 min; 25.4% - up to 5 min
	Time to reach destinations in central part of Riga with public transport (2013)	Mostly up to 20 min or within 20-40 min	Mostly in up to 20 min	Mostly within 20-40 min	Mostly within 20-40 min or in more than 40 min	Mostly in up to 20 min or within 20-40 min
	Deficiencies in quality and availability of different public services (SIA "Datorkarte," 2012)	No deficiencies	No deficiencies	General education facilities that are provided insufficiently	No culture facilities, general education, and primary health care facilities are provided insufficiently.	No libraries; pre-school education and primary health care facilities – provided insufficiently, low quality.
	Thinning-out of public infrastructure	No information	Reorganization of a secondary school	Closure of a culture house, merger of two schools	No information	Opening of an International school

5 Analyzing responses to urban shrinkage in Riga

The previous chapter was focused on providing insights into the process of urban shrinkage in Riga as well as a brief explanation of overall development trends in the city since 1990. From this contextual information, it was possible to conclude that besides population loss Riga has also been affected by degradation of the urban environment and thinning-out of public infrastructure. Consequently, it raises further questions: what is being done to respond to these processes and by whom? Essentially, these are also the aspects addressed in the first research question (RQ1: What are responses to urban shrinkage in Riga?) and hence discussed in this chapter.

As it has been described before, shrinkage does not manifest itself in the same way or degree throughout the whole city. Similarly, the actions taken by different actors in response to shrinkage differ from one place to another. Therefore, five comparatively different districts have been selected to illustrate the variety of actions and responses to urban shrinkage in Riga. Moreover, the specific focus on the district level does not exclude actors or actions on other spatial scales (e.g., on the city level) as it is clear that actions on different spatial scales can have a local impact. Also, it allows to reflect the broader context of general occurrences in Riga. However, it has to be pointed out that the analysis does not include completely all actors and their actions that can be associated with the processes of interest due to time and other constraints, but it provides a fairly comprehensive overview of main actions and actor groups.

The chapter is structured in a way that it includes, first, the description of actions taken by different actors in response to specific occurrences of shrinkage and, second, the analysis of these actions as responses to urban shrinkage in Riga. The actions are also further divided into ‘strategic actions’ and ‘activities.’ Strategic actions are those ideas, visions, objectives, and goals that have been expressed in strategic planning documents or during interviews and reflects the intentions to do something. However, activities are those actions or projects that have been implemented at some point in time or are being implemented during the time of the study and leading to identifiable outcomes. This division allows distinguishing not only between something that has been planned for future and the things that are being done, but also to illustrate differences among roles and capacities of different actors.

Based on the review of different strategic actions and activities in Riga, more general conclusions on responses to urban shrinkage are being drawn. Overall, that was not an easy process taking into account the variety of actions focused on different dimensions of urban system and the complexity of the phenomenon under study. The initial criteria for analysis were taken from the proposed theoretical assumptions and are summarized in Table 16. Essentially, the criteria are structured around the three response types discussed in the theoretical part of this work (adaptation, transformation, and decline) and

provide general assessment framework that should be applicable for any type of action. The main focus is on the character of the action(s) and the outcome (or intended outcome in the case of strategic actions) which are two aspects that can be distinguished from the available qualitative data. It was also considered whether the actions are directed towards tackling the negative impacts of urban shrinkage (characteristic to adaptation) or making use of the opportunities provided by the phenomenon (characteristic to transformation).

Table 16 General criteria for analysis of responses

Response type	Actions	Outcome/intended outcome
Adaptation	Adjustments to the existing situation	Relatively unchanged system/environment; improvements in quality
Transformation	Fundamental changes	New type of system/environment
Decline	-	Deteriorated system/environment

During the data analysis process, it eventually became clear that to cover all responses that can be identified in Riga at least one more response type needs to be introduced – mitigation. It would account for those actions that are aimed at influencing the negative trends like population loss instead of dealing with the existing situation resulting from shrinkage and therefore cannot be directly linked to resilience. It is explained in more detail in Chapter 5.3 when relevant.

5.1 Strategic actions in response to urban shrinkage in Riga

As mentioned before, strategic actions are perceived as visions, objectives, and goals for future that are reflected in the planning documents or expressed as aims of specific organizations (actors). The logical link between strategic actions and activities would be that the strategic actions are used to guide the activities, but as it will become clear later in this chapter that is not always the case. There are strategic actions that do not result in the implementation of specific activities as well as there are activities that are implemented as a reaction to a specific problem without preceding strategic planning process (especially on the local level).

Overall, the strategic actions have been analyzed in the context of population loss, degradation of the built environment, and provision of public infrastructure in Riga. The findings are mostly based on the outcomes of semi-structured interviews and document analysis. Although the analysis has been conducted on several spatial scales – national (for population loss), city, and district, the focal scale of strategic actions in the majority of instances is the city level.

5.1.1 Strategic actions in response to population loss

The strategic actions in response to population loss can be identified on the national and city level. The actors putting forward these strategic actions include the central and local government. On the national level, the strategic actions linked to population loss can be found in Sustainable Development Strategy of Latvia until 2030, National Development Plan of Latvia for 2014-2020, and Action Plan for Support of Remigration 2013-2016. On the city level, relevant strategic actions are included in Riga Sustainable Development Strategy 2030 and Riga Development Programme 2014-2020. The focus of the analysis is on the identification of those actions that are directed towards the attraction of new residents as well as retention of existing or remaining residents. In other words, it has been analyzed what is planned to be done to make the city attractive to new residents and what is planned to be done to make the city more attractive to existing residents so that they would not consider moving elsewhere.

Sustainable Development Strategy of Latvia until 2030 (SDSL2030) is the main national long-term development planning document. It includes main priorities, objectives, action directions as well as potential solutions describing the desired development trends on the national level. Overall, there are seven main priorities, but only one (Long-term Investments in Human Capital) addresses the issue of population decline in a comparatively direct way. Other priorities can be seen as addressing this issue indirectly, but as they have limited impact on Riga, they will not be discussed here in more detail.

In the context of long-term investments in human capital, the Strategy describes two development directions: (1) base value and productivity of human capital and (2) equal opportunities and formation of a middle class. Each of these development directions includes some action directions and possible solutions that are related to population decline. First, SDSL2030 sets out the reduction of depopulation risks as one of the action directions for improving base value and productivity of human capital. The suggestion is to achieve changes in the projection of negative natural population increase and positive migration balance to stop depopulation (Saeima of the Republic of Latvia, 2010). Essentially, this is very broad objective and can be associated with both attraction and retention of residents. The proposed solutions for this action direction do not provide considerably more explanations although the solution to implement purposeful migration policy is directed towards the attraction of residents (including return migrants). Other aspects directed towards improving base value and productivity of human capital that are related to potential actions in dealing with population loss are addressing the provision of support for families, e.g., the creation of multifunctional centers for parents with children. The support for families has been put forward also in the context of equal opportunities and formation of a middle class. Access to education and childcare of good quality has been introduced as separate action direction with additional solutions for the provision of childcare options to support working parents (Saeima of the Republic of Latvia, 2010). It can

be seen as a strategic action directed towards the retention of the existing population but might also affect on the attraction of new residents.

Overall, SDSL2030 is putting forward both types of strategic actions that are directed towards reducing depopulation in Latvia (those that are oriented towards the attraction of new residents and those that are oriented towards population retention). Specifically, support for families in the form of additional childcare options for working parents emerges as one of the potential instruments for dealing with the negative natural population growth. Purposeful migration policy, in its turn, is suggested for tackling emigration. Additionally, SDSL2030 has priorities to improve the economic situation in the country which also is expected to contribute to reducing depopulation by attracting and retaining residents and creating conditions for families to be able to have a larger number of children.

A similar approach can be found in National Development Plan of Latvia for 2014-2020 (NDP2020) which is hierarchically the highest national medium-term planning document. Essentially, in NDP2020 economic breakthrough has been defined as the most important medium-term goal which should encourage the growth of the national economy and the improvement of the well-being of the population. As part of the vision for Latvia in 2020, aspects related to demography and Latvians living abroad have been addressed. They are described in more detail through specific strategic objectives, goals, and measures. First, to tackle the issues of depopulation in Latvia, a strategic objective “Stability for Demographic Growth” has been suggested. The main strategic actions for this objective have been summarized in three goals which address the need to implement a comprehensive support system for families and to ensure favorable family environment through reduction of family violence and poverty risk for children. The support system for families, in this case, is not only linked to the variety of family support services but also improvements to the taxation system and the system of benefits to support childbirth. Second, to promote return migration and retention of residents, a goal to encourage people to stay in Latvia and facilitate the return of Latvian nationals to Latvia has been proposed under strategic objective “Belonging to Latvia: Cooperation and Culture” (Cross-Sectoral Coordination Centre, 2012). The suggested measures in this case, however, do not provide concrete ideas for changes that could result in achievement of this particular goal.

To sum up, NDP2020 (similarly to Sustainable Development Strategy of Latvia until 2030) includes both types of strategic actions related to attraction and retention of residents. It will be attempted to achieve by providing additional support for families (with the objective to improve natural population increase in the country) as well as by facilitating return migration and retention of residents in Latvia.

Action Plan for Support of Remigration 2013-2016 is an initiative of the central government and is not part of the standard set of development planning documents. It has been prepared to define concrete aid measures for those citizens of Latvia and their families

living abroad that are considering the possibility or have decided to return and work in Latvia, or establish their enterprise in Latvia, or develop business relations with Latvia. Essentially, it focuses on facilitating migration of the citizens of Latvia back to their home country which is directed towards changing the existing trajectory of continuous population loss and corresponds to objectives expressed in other national planning documents. The Action Plan defines 8 directions for action: (1) to ensure "one-stop" principle: one institution that is responsible for provision of information and consultations; (2) to ensure availability of information on labour market; (3) to attract highly qualified workforce; (4) to provide possibilities to learn Latvian language; (5) to cooperate with diaspora, especially to form and maintain business connections; (6) to provide support for pupils returning or integrating into Latvian educational system; (7) to review requirements/activities of the state and municipality institutions and state companies when recruiting employees; and (8) to expand the circle of people that can apply for the status of repatriate. Each direction for action is also linked to specific activities that have been described in more detail (including information on the responsible institution, planned outcomes, time of completion, and necessary funding) (Latvijas Republikas Ekonomikas ministrija, 2013).

Overall, the strategic actions included in the reviewed national planning documents show that the objective of national government is to try and change the existing pattern of population decline mostly through tackling the issue of emigration and negative natural population growth. It is proposed to achieve that through direct and indirect measures that could also (if implemented) improve the quality of life of people living in Latvia.

On the municipal level, the strategic actions in the context of population loss have been incorporated into the overall development planning documents. It is possible to distinguish both types of strategic actions – those that are oriented towards the attraction of new residents and those that are directed towards the retention of existing residents (the latter, however, is referred to less frequently). Overall, the long-term policy of Riga city that has been described in Riga Sustainable Development Strategy 2030 (RSDS2030) is focusing on stopping the population decline and facilitating population growth. The objective is for Riga to become a city with nearly 700 thousand residents by 2030. The increase in the number of residents is foreseen to stem from improved natural population change (more children) and immigration (caused by young generation from suburban areas moving to the city, immigration from other parts of Latvia and other countries, including return migrants) (Rīgas domes Pilsētas attīstības departaments, 2014b). When attempting to identify ways in which this is planned to be achieved, it has to be said that there are some open questions. Specifically, it is not entirely clear how the municipality is planning to facilitate improvements in natural population growth. It can be assumed that the policy to ensure more jobs and improve the living environment in the city could prompt families to have more children or prevent them from moving to suburbs, but it is not stated in RSDS2030. The only aspect that can be considered as directly related to this topic is a task (and activities related to it) set out in Riga Development Programme

2014-2020 – to support families and family values. Therefore, it is fairly safe to assume that Riga municipality relies on central government to improve the demographic situation in the country which would also have an impact on Riga.

On the other hand, the attraction of new residents has been discussed in several parts of RSDS2030. In general, the proposed approaches can be summarized under two main headings: (1) increasing job opportunities with adequate salaries and (2) provision of appropriate and comfortable living environment. In this context, Riga has defined specific spatial perspectives for settlement structure and priority development territories. The first one focuses on defining three main lifestyle and housing options in Riga (the city core, the semiperiphery, and the periphery) that should satisfy the needs and wishes of different groups of residents. Furthermore, different objectives have been set out to improve or create an adequate built environment in these areas based on the specific character of existing building stock and its quality (Rīgas domes Pilsētas attīstības departaments, 2014b).

As priority development territories, Riga has defined seven areas where main development projects will be facilitated. These will include projects related to both increase in job opportunities and improvements in the existing urban environment, but also will allow building new residential quarters in times of population decline (Rīgas domes Pilsētas attīstības departaments, 2014b). Overall, this scenario could facilitate an increase in the number of residents on the city level. However, it could also contribute to further loss of population in some Riga districts that are already suffering from population loss and have more challenging circumstances for improvement of the existing housing stock and urban environment (e.g., Avoti, Maskavas forštate, and the city centre, although the last two have also been defined as priority development territories).

Additionally, it is interesting to note that action directions that are used as the basis for Riga Development Programme 2014-2020 do not directly address or deal with the population loss in Riga. however, more than one can be associated with factors that could facilitate the increase of number of residents in Riga or contribute to retention of existing residents, e.g., quality and modern education, quality living environment and available housing, favourable business environment, high economic activity and others (Rīgas domes Pilsētas attīstības departaments, 2014a).

On the local (district) level in Riga, there are almost no strategic actions that could be identified in the context of population loss. In general, local NGOs in the selected districts are not dealing directly with population loss, not all of them even see it as a problem in their district. However, during the interviews, an indication of indirect strategic actions focusing on retention of existing residents was expressed in the case of Sarkandaugava. The objective of local actors is to initially tidy up the environment around themselves and start liking themselves so that others would start liking the district as well. This way those

people that are thinking about or willing to move somewhere else would decide to stay (INT_05, 08.04.2014). Not a strategic action, but activities with a similar intention of population retention are taking place also in some parts of Maskavas forštate.

5.1.2 Strategic actions in response to degradation of built environment

Strategic actions related to the degradation of the built environment can mainly be analyzed on the city level although many activities take place both on the city and local level. Overall, there is a clear and dominant focus on strategic actions that are directed towards dealing with the degraded areas and objects in Riga. However, it is also possible to identify strategic actions that might facilitate further degradation of the built environment in some parts of Riga which creates a contradictory situation for the city in general. Some examples from Riga Sustainable Development Strategy 2030 (RSDS2030) and Riga Development Programme 2014-2020 (RDP2020) are discussed in more detail to justify these conclusions.

Firstly, a general principle to base future development projects in already built-up and degraded areas in Riga can be found throughout RSDS2030. It has been best expressed in one of the strategic approaches for the development of urban environment: “before developing new, vacant territories, the preference should be given to revitalization and development of degraded and already built-up areas.” Additionally, specific objectives can be found on the revitalization of Soviet-time panel housing neighborhoods, including the revitalization of the building stock and public spaces (Rīgas domes Pilsētas attīstības departaments, 2014b).

The issue of degraded and abandoned buildings has also been addressed separately in RDP2020. The topic has been raised in the action direction related to specific urban territories, including degraded and abandoned buildings and areas. It states that municipality will continue its actions in dealing with degraded territories and in improving environmental quality. Specifically, it will organize demolition or maintenance of existing degraded buildings (also private buildings). Also, the municipality is committed to preparing a policy on degraded territories (Rīgas domes Pilsētas attīstības departaments, 2014a). Essentially, it reflects activities carried out by Riga City Council’s Property Department in the form of strategic actions.

Although the aforementioned aspects can be considered as a basis to work towards tackling the issue of degradation of the built environment in Riga, there are other strategic priorities that are in a way contradicting the previously described notions and might further facilitate the expansion of existing problem. As noted in the previous section of this chapter, RSDS2030 defines priority development territories among which, for example, is also Skanste where major development projects are taking place. This urban area is largely vacant or green territory (except some areas where development projects have already been implemented). The planned intensive development directly contradicts the

strategic approach that the preference should be given to revitalization and development of degraded areas (or illustrates the perception of allotment gardens or unkempt green spaces as degraded territories). Moreover, taking into account that Skanste is located adjacent to the city center, it can be viewed as a competitor to other districts including Avoti and Maskavas forštate that have a similar advantage regarding the location and where the great majority of the degraded and abandoned buildings are located (together with the city center). It raises a question whether the city through its strategy is tackling or facilitating the problem of degradation of the built environment.

The city center and Maskavas forštate have also been defined as priority development territories, but when, whether and in which parts of these districts some real action is foreseen to follow, is not said. In the case of Maskavas forštate, it is mentioned that the revitalization process is a long-term project and the reconstruction will be done in stages (Rīgas domes Pilsētas attīstības departaments, 2014b). However, it is possible to raise serious concerns whether investors and developers with adequate capacity to implement development projects that could make a sufficient impact on the areas' character and current development path would be interested in doing so. These concerns stem from the fact that there are other priority development territories where constraints for implementation of any project are considerably fewer.

Besides Riga City Council and its institutions whose main strategic actions have been described above, there is a considerable number of actors that are carrying out different activities to improve the built environment in Riga. However, only a few of them have defined clear strategic actions (in the form of objectives or vision) that are used as the basis for their activities (e.g., local NGOs or different initiatives). Additionally, it is quite often difficult to differentiate between strategic actions and activities on a local scale; therefore, they will not be reviewed here to avoid repetition. Nevertheless, it is important to note that some local NGOs (in Sarkandaugava and Maskavas forštate) have fairly clear visions of what they want to achieve or how they want to see their district in the future. These visions, among other things, also include aspects or goals for improvement of the existing built environment (INT_05, 08.04.2014; INT_06, 09.04.2014).

5.1.3 Strategic actions related to provision of public infrastructure

The analysis of strategic actions or actions related to the provision of public infrastructure in the city is focused on what the actors are planning to do or are doing in this context (instead of addressing only the specific process of thinning-out of the public infrastructure). It stems from the challenge to define thinning-out of public infrastructure as something 'good' or something 'bad' because it cannot be unanimously classified as either. When the city is losing population, the demand for certain services reduces which results in a decrease of public infrastructure facilities throughout or in some parts of the city. If during this process residents in some areas are not put at a greater disadvantage or do

not become greatly dissatisfied with the existing situation, the overall process of thinning-out of public infrastructure cannot be seen as something negative, but a logical step in response to population decline. In this case, it would also be difficult to define strategic actions that are needed to improve the existing situation as no real problem arises. As the residents' survey in Riga does not show great dissatisfaction with the existing public infrastructure in the city, it was decided to direct the analysis towards the provision of public infrastructure in general and avoid drawing conclusions that would be irrelevant for the existing situation.

Similarly to the topic of the built environment, the strategic actions related to public infrastructure can mainly be analyzed on the city level. The main policy aspects are reflected in Riga Sustainable Development Strategy 2030 (RSDS2030) and Riga Development Programme 2014-2020 (RDP2020). RSDS2030 includes main objectives whereas RDP2020 provides more details on specific tasks and priorities. Essentially, Riga is aiming at providing an integrated network of educational and cultural facilities throughout the city to ensure possibilities for each resident to educate and develop themselves lifelong. At the same time, the city is conscious of the need to optimize network of education institutions while planning for population growth. Spatially, it has been made quite clear in RSDS2030 that it is recommended to define local centers in the districts where a wide range of services could be located in the long term (Rīgas domes Pilsētas attīstības departaments, 2014b).

In RDP2020, the topic of public infrastructure has been addressed under several action directions, including specific tasks and territorial priorities. It refers to a wide range of public services – education, health care, cultural and leisure activities, sports, social care, and public transport. The summary of these action directions (except those related to public transport) and main territorial priorities for the selected districts can be seen in Table 17.

Overall, the action directions and tasks included in RDP2020 are oriented towards the general provision of adequate public infrastructure throughout the city regarding quality and quantity as stated in RSDS2030. The territorial priorities show where and what changes need to be made to achieve that. As can be seen from Table 17, some of these priorities also apply to the selected districts (except Ķīpsala). In brief, it can be said that there are some similarities between Avoti and Maskavas forštate where several public services need to be improved. In Sarkandaugava and Bolderāja, some services or facilities also need to be created or introduced, e.g., there is a need for culture facilities in Sarkandaugava and youth leisure center in Bolderāja. At the same time, it is interesting to see that primary health care services need to be improved only in Bolderāja indicating that for the selected districts primary health care services is possibly the least problematic area of public infrastructure.

Table 17 Action directions and territorial priorities of Riga Development Program 2014-2020 related to provision of public infrastructure in study areas (own compilation)

Action directions	Territorial priorities (to be implemented till 2020)	Maskavas forštate	Avoti	Sarkandaugava	Bolderāja	Ķīpsala
Qualitative and modern education	To improve preschool education services	x	x			
	To improve general education services	x	x			
Support for youth initiatives and organized free time	To improve services provided by leisure centers	x	x	x		
	To create a leisure center				x	
Inclusive cultural environment	To improve services provided by culture facilities	x	x		x	
	To introduce culture facilities			x		
	To improve services provided by libraries	x	x	x	x	
Diverse possibilities to do sports	To improve services provided by public sports facilities	x	x			
Preventive action centered healthcare	To improve and introduce primary health care services				x	
Inclusive and motivating social system	To introduce social care services			x		
	To improve and introduce social care services	x			x	

In some ways, these territorial priorities also reflect the wishes of local actors. For example, the local NGO in Sarkandaugava is also interested in having a space for cultural events (in the form of culture house or center) in the district (INT_05, 08.04.2014). It is not within their capacity to make it happen as such venture requires investments and resources that local NGOs do not have, but the discussion has been fairly extensive leading to real suggestions for a culture center from future architects (as part of their educational training).

Finally, it has to be noted that it is difficult to talk about other strategic actions or wishes of other actors in the context of public infrastructure as the general satisfaction with the existing situation is relatively high in the selected study areas (according to residents' surveys and interviews).

5.1.4 Summary of the strategic actions

The previous subchapters describe the strategic actions (visions, objectives, and goals) related to population loss, degradation of the built environment, and provision of public infrastructure in Riga that can be found in different planning documents on the national

and city level. The analysis shows that the population decline has been addressed directly and indirectly by the national and local government in several planning documents with the general aim to stop the population decline through tackling the issue of out-migration and negative natural population growth. The proposed actions include promotion of return migration, provision of a comprehensive support system for families, provision of different lifestyle and housing options in Riga as well as facilitation of economic growth in Riga and Latvia. Overall, these actions could facilitate population growth or stabilization on the city level, but the effects on the local (district) level could differ from one district to another. Those Riga districts that suffer from population loss could continue to do so as the local government plans to focus main development in seven priority areas which, in return, could facilitate an increase in competition among districts and put at a disadvantage those that have already been more affected by the shrinkage.

The strategic actions in response to the degradation of the built environment have mainly been analyzed on the city level. The results show that the local government is focusing on dealing with the abandoned and degraded buildings and territories in the city. The general strategic approach is to promote development in built-up and degraded urban areas in Riga. However, it is possible to identify other strategic actions that contradict this approach by facilitating the development first in those districts that are largely vacant.

Similarly to the degradation of the built environment, the strategic actions related to public infrastructure were mainly analyzed on the city level. The objectives and tasks of the municipality are directed towards the provision of adequate public infrastructure in terms of quality and quantity on the city and local (district) level. Riga municipality has defined territorial priorities on the district level which address necessary improvements. However, the planning documents do not reflect any plans for optimization of the public infrastructure in those areas where there might be an excess of public facilities.

Finally, it also needs to be mentioned that non-government actors that are implementing a variety of activities in Riga have rarely defined a strategy or plans for future. The exception is a couple of local NGOs that have defined vision or objectives for their district that are closely linked with their activities. These visions include aspects related to the improvement of the existing built environment or general improvement of the quality of life of residents.

5.2 Activities in response to urban shrinkage in Riga

As mentioned earlier, activities are understood as actions or projects that have been implemented by different actors at some point in time or are being implemented during the time of the study and are leading to the identifiable outcome(s). Activities are often carried out in response to specific processes or problems in the city or the selected districts. It has to be also understood that some activities are examples of responses to one process, but can also be seen as an indirect response to a different process in a broader

context. For example, residents' initiative to tidy up their public spaces can be seen as an activity in response to degradation of the built environment. However, it might also lead to population retention in a broader perspective as the residents would be less inclined to look for a new place to live if they are satisfied with their surroundings (hence an indirect response to population loss). Due to this fairly complex interplay of activities and different processes, the analysis of activities will be structured based on their main role in response to processes of interest (population loss, degradation of the urban environment, and thinning-out of public infrastructure) to avoid unnecessary repetition or confusion. The chosen approach does not mean that the broader impact of some activities will be disregarded – it will be duly explained when relevant.

Unlike with strategic actions, there are much more actors involved in the implementation of different activities. These actors can roughly be divided into two groups - those whose interests and activities encompass the whole city and those that focus their activities only in the specific areas or districts. In reality, quite a few of those actors that are doing something on the city level are making an impact locally; therefore, this division cannot be very strict. Essentially, the focus will mainly be on those actors that are dealing with the processes of interest in the whole city of Riga and those that are carrying out activities or making an impact in the selected five districts. They will be initially differentiated by their spatial area of interest (city or local), but the scope of impact and the outcomes will also be taken into account.

Further complications arise due to the character of different activities. There are activities ranging from the creation of separate institutions for dealing with a specific problem in the city to very practical activities like cleaning up of local areas by residents. Moreover, quite a few of the activities and actors are linked – they might represent separate organizations or actor groups and have their role, functions, and tasks, but the outcome can only be achieved through collaboration or the specific interplay of each actor's activities. In some cases, it is also important to highlight the sequence of some activities as it allows to understand better the overall processes taking place in Riga or specific district(s).

As already indicated before, the overview and analysis of activities are structured around the same aspects as analysis of strategic actions – population loss, degradation of the built environment, and public infrastructure. It allows not only to identify connections between strategic actions and actual activities, but also to illustrate which processes or problem areas have provoked more activities or more responses from different actors. Unsurprisingly, the most visible manifestations of urban shrinkage that are related to the degradation of the built environment have prompted the involvement of comparatively more actors and consecutive implementation of more activities than other processes.

5.2.1 Activities in response to population loss

The identification of specific activities in response to population loss that has an impact on the existing trend or situation is very challenging. Essentially, it is due to the macro-level processes (global, national, and regional) that are causing the population decline in Riga and that cannot be easily impacted on more local (city and district) level. Moreover, there is a limited number of strategic actions that can be implemented and are planned to be implemented to deal with this phenomenon directly on national and city level as has been described in Chapter 5.1.1. A lot more strategic actions are directed towards improvements in other domains that should in return also have a positive impact on population dynamics, e.g., an economic breakthrough. Consequently, a similar situation can be observed with activities. Not much is being done that can be viewed as a direct response to population loss, but many activities can have or are having an indirect impact on the existing situation (and not always in a desirable way).

Another challenge is that the strategic actions that should lead to specific activities on the national and city level have been put forward comparatively recently. For example, National Development Plan of Latvia for 2014-2020 was approved in December 2012, but Riga Sustainable Strategy 2030 and Riga Development Program 2014-2020 – in May 2014. It creates a situation that even in cases where the specific activities have been suggested, it is too early to make an assessment of their implementation. The only possible exception is Action Plan for Support of Remigration 2013-2016. There are some activities that have been described in the document and have already been carried out, e.g., provision of information on returning to Latvia in portal https://www.latvija.lv, the creation of job vacancy portal by State Employment Agency, and provision of options to learn the Latvian language for return migrants and their family members. These are activities implemented and managed by different state institutions and are directed towards the attraction of Latvian nationals back to their home country. However, the impact of these activities on facilitating return migration is unknown. It can be hypothesized that the impact is not great as neither of these activities address or deal with the reasons behind the emigration.

On the city level, it is a challenge to identify any activities at all that could be perceived as a direct response to population loss (beyond that of putting forward some strategic actions that have already been discussed before). It resonates with rather strong opinions that have been expressed by some of the experts in the interviews that Riga (Riga municipality) is currently doing nothing to attract more residents (INT_16, 26.04.2014). The exception might be municipality's repeated attempts to motivate residents of Riga to declare their residency with the municipality officially. It was initially attempted with promises of price differentiation in public transport of Riga for residents and guests. It was never implemented, but it prompted a considerable number of people to register with the municipality. However, starting from 1st January 2016, it is being facilitated with property

tax by giving discounts for families with children, but increasing for dwellings without declared residents (Rīgas domes Sabiedrisko attiecību nodaļa, 2015). In reality, this might boost the official statistics of Riga population, and it would also have a positive impact on the municipal budget. Whether it would result in a higher number of residents in the city is doubtful. It is more likely that the property owners will try to declare someone as living in their dwelling to avoid increases in property tax, but the property could remain empty. Moreover, it is unlikely that Riga municipality would deal with such situations as they would have achieved their objectives – a higher official number of residents in the city and an increase in municipal revenue from the income tax.

It is also possible to observe quite extensive and ambitious development projects for residential, commercial and office uses in some parts of Riga (e.g., in Skanste) that should result in more jobs and attract more residents to these areas. It has already raised some discussions in the society and among experts whether this is going to be such a straightforward solution and whether these residential projects are meant for permanent residents of Riga or only those seeking a residence permit in EU as property owners. Moreover, facilitating such growth-oriented development pattern in comparatively advantageous locations in Riga can lead to further population losses in already declining areas which could result in an even greater fragmentation of the city.

As already mentioned in the context of strategic actions, local actors (mostly local NGOs) are not directly dealing with the issue of population loss. At the same time, they carry out a variety of activities in their districts that contribute to creating an attachment to a place which in return facilitates population retention. While this notion is still more in the form of strategic action (vision) in Sarkandaugava, this process has already had a positive impact in some parts of Maskavas forštate – families for several generations are trying to remain in the district even when changing apartments (INT_06, 09.04.2014). Eventually, it could also lead to attraction of new residents in long-term if the image of the district is gradually changed and improved. However, that would be a local impact and would not change the overall trend in the city (and cannot be predicted with any level of certainty at this stage).

5.2.2 Activities in response to degradation of built environment

Degradation of the built environment is a very broad process encompassing several aspects of the urban environment, including buildings, street infrastructure, and public spaces. When it comes to degradation of the built environment in Riga, it is possible to distinguish two main streams of activities in response to this process: (1) those that are related to degraded and abandoned buildings in the city and (2) those that are related to public spaces and infrastructure. The analysis has been structured similarly to provide an overview of all activities related to this topic.

One of the most visible and possibly most discussed manifestations of urban shrinkage in Riga are degraded and abandoned buildings or, so-called, ruined buildings (*grausti* in

Latvian). This issue has prompted a variety of responses from different actors both on the city and local levels. The actor groups that are dealing with or making use of the opportunities provided by the existing situation include municipality institutions, creative initiatives, developers, and also proprietors. During the study, a deeper insight of what is being done has been obtained from the first three of the mentioned actor groups.

Firstly, Riga municipality has created two new institutions whose competence lies in dealing with degraded and abandoned buildings in the city. The main institution is the Board of Building Maintenance – an administrative unit within RCC Property Department that was created in 2014. There were officials in RCC Property Department and Executive Directorates of Riga fulfilling the current function of the Board before its establishment. However, the creation of this administrative unit (and also increase of the number of officials working for it) can be seen as an important step towards dealing with the existing situation and achieving the strategic goals set out in Riga Development Program 2014-2020. The main function of the Board is to ensure that buildings degrading the urban environment within the administrative border of Riga are dealt with (demolished, renovated or preserved in a certain state) either by the proprietors or municipality. To be able to do that, the Board gathers information on environment degrading buildings in Riga and classifies them based on their technical condition and safety for the general public. For this purpose, they have also created the Commission of Environment Degrading Buildings that allow for more transparent and objective decision-making. Besides the work with the objects on-site, the Board is also preparing or suggesting relevant regulations, instruments, and forms of cooperation with different institutions to improve the process of dealing with the environment degraded buildings in the city (based on INT_01, 31.03.2014).

At the same time, it has to be said that the Board is dealing only with a half of the problem. They are focusing on the technical condition of the physical structures of the environment degrading buildings, but have no role in bringing some function to the abandoned buildings. It has been stated that their main objective is dealing with the buildings that pose a threat to public safety (category A and B buildings) or have a degrading effect on the urban environment (category C buildings). The buildings that are unused but preserved in accordance with the relevant regulations (category D buildings) are to be monitored and are of lower priority (INT_01, 31.03.2014).

The second institution that has been created by Riga municipality is the center “Koka Rīga” (opened in 2012). It is a competence center whose one of the functions is to consult and inform property owners and other interested parties on restoration and renovation of historic wooden buildings in Riga. It also functions as a good practice example of restored wooden buildings in Avoti. The focus of the competence center is very specific, but it has to be understood that a great number of degraded and abandoned buildings in Riga are historical wooden buildings, especially in Avoti and Maskavas forštate. At the

beginning of 2014, a position of consultant on issues related to wooden buildings has been created within the center to fulfill the said function. The tasks of the consultant cover a wide spectrum of activities – from very practical help through workshops (e.g., how to clean the windows correctly?) to questions related to funding opportunities for restoration of wooden buildings. During the interviews, it was revealed that there is no clear understanding or scheme how to accomplish the general working tasks set out for the position - to figure out how to help the owners and how to teach society to take care of these buildings and not demolish them. Therefore, the impact could not be seen. Admittedly, the center only had the capacity to give recommendations on specific cases or provide some practical education for interested parties (based on INT_08, 14.04.2014; INT_09, 14.04.2014).

A different approach in dealing with or, more precisely, making use of degraded and abandoned buildings is demonstrated by one of the creative initiatives – movement Free Riga (also officialized as an NGO since August 2014). Their objective is to put life and function back into the empty buildings in Riga. Started in a comparatively *ad hoc* way by, so called, creative youth and creative initiatives through the social campaign in September 2013, the movement has grown, and there are several buildings in Riga that have been revived through their efforts. The general activities of the movement include: (1) raising awareness about the problem of abandoned or vacant buildings in the city; (2) gathering data and information on unused buildings in the city; (3) gathering information on creative people, creative, social and cultural initiatives that are looking for space for their activities; (4) establishing a cooperation between property owners and creative initiatives for use of the empty buildings; and (5) promoting the activities of creative initiatives in revived buildings in Riga. One of the successful examples of revived buildings can be found in Maskavas forštate (Līksnas iela 26). It has become a cultural center in the district and is aiming at breaking the negative stereotypes of this area (INT_04, 03.04.2014). Moreover, although the initiative is carrying out their activities throughout Riga, the impact is more local.

It is interesting to see that movement Free Riga is attempting to facilitate the process of bringing some function back to degraded and abandoned buildings in Riga which is something that is not the main priority of municipal institutions. During the interviews, it was expressed that there have been repeated, but not very successful attempts to establish cooperation between movement Free Riga and RCC Property Department (INT_01, 31.03.2014; INT_04, 03.04.2014). However, from the follow-up communication (approximately one year after the interviews), it can be understood that the situation has changed, and the two organizations have managed to find some common ground for cooperation.

When looking at the problem with the degraded and abandoned buildings more locally, it is possible to see that private developers also play a role in making use of these buildings, especially, in prominent locations. As one of the best practice examples normally is

mentioned Ķīpsala - a district where old residential and industrial building stock has been transformed into exclusive residential or mixed-use properties by a private developer who saw a unique opportunity for development at the right time. Ķīpsala is the exceptional case due to its special location (an island in the river Daugava with a view on old town) and therefore cannot be seen as representing the general trends in the city. Nevertheless, the processes and activities taking place there are crucial for understanding the possibilities for transformation and reuse of degraded building stock.

Overall, it is possible to talk about two main development trends taking place in Ķīpsala that emerged from the degraded and abandoned buildings in the district – reconstruction and restoration of historical wooden buildings and re-development of old Gypsum factory (industrial) complex. The reconstruction of wooden buildings has mostly been done using the existing building stock. However, there have been cases when buildings are built on old foundations or moved to Ķīpsala from other parts of Riga. Regardless the process, the idea in all cases has been to restore old wooden buildings as modern residential houses (in few cases with other uses on the ground floor). The method applied for restoration includes historical research that allows reconstructing the building and keeping its historical structure and appearance but adjusting it to all commodities of a modern life. A similar approach was used in re-development of Gypsum factory complex. It was done using the existing structures of former factory building complex by converting it into modern residential ensemble while keeping some characteristic elements of its previous use in the interior and exterior design (INT_07, 11.04.2014). Essentially, the case of Ķīpsala is an example of what can be done with two different types of buildings given the right preconditions to attract interest and resources to implement rather ambitious projects. However, it also has to be emphasized that this process was done in stages over a longer period and is concentrated in specific parts of Ķīpsala district.

The other local actors have little possibilities to deal with or make use of the degraded and abandoned buildings in the city. Local NGOs, in general, are not dealing with the issue due to their limited capacity to influence what happens with specific private, municipal or state properties as well as the lack of resources or instruments to influence the existing situation. Private proprietors who own the buildings in question quite often are struggling financially and also have limited capacity to deal with the problem. On some occasions, relevant institutions are even unable to locate real owners and force them to take necessary actions to maintain their buildings in an adequate condition that does not pose threats to public safety. The situation is quite often made even more complicated when the building is owned by several proprietors or has historical value (the latter puts additional restrictions on what can be done with the building) (INT_01, 31.03.2014). These and other factors create a situation where many of the degraded and abandoned buildings are not fully dealt with, and their future is unclear.

The second stream of activities related to the degradation of the built environment in Riga is focused on public spaces and infrastructure or, in other words, the surroundings (not the buildings). Again, it is possible to talk about different actors and their activities on both spatial scales – city and local. The main actors involved include Riga municipality institutions, different initiatives and local NGOs.

Among Riga municipality institutions, there are two institutions carrying out work directed towards improvement of the public spaces and infrastructure in the city. One of them is RCC City Development Department's Projects' Division which has a similar role to that of a developer. The main function of the Projects' Division is to initiate and manage all kinds of development projects implemented by Riga municipality, including major revitalization and regeneration projects of public spaces. For example, Riga municipality has been implementing revitalization projects in three parks at the time of the study, including Ziedoņdārzs and Miera dārzs that are located in Avoti and Maskavas forštate, respectively (finished in summer 2015). RCC has also completed development and revitalization of the Spīķeri quarter that was considered a degraded territory (it is located in Maskavas forštate district). Both these projects have been implemented with the help of European Regional Development Fund (INT_14, 25.04.2014).

The Projects' Division manages this kind of projects from the idea development stage, and throughout implementation (the whole project cycle); therefore, their activities include a wide range of actions (generation and development of the project ideas, preparation of technical projects, locating funding,and so forth). These projects have normally specific spatial and thematic scope based on the requirements of funding instruments (INT_14, 25.04.2014).

Other municipal institution or institutions working towards improvement of the public spaces and infrastructure in the city are Executive Directorates (3 in total). They are responsible for repairs of inner yards of residential quarters throughout Riga. The Directorates are focusing their attention on the specific case of residential quarters of panel housing. The repair works are mostly directed towards repairing the driveways and sidewalks, the creation of patches of grass, and similar activities. It is promoted as a long-term project for another three till four years (till all inner yards have been repaired).

The first data on completed repair works is available for 2012. The amount of completed repair works considerably increased in 2013 and was continued in 2014. From the available information, only one of the selected districts has seen benefits from this initiative till 2014 – Bolderāja (possibly due to its extensive quarters of Soviet-time panel housing) (Rīgas domes Sabiedrisko attiecību nodaļa, 2013 & 2014). It also has to be pointed out that the repair works are carried out by external contractors and, unfortunately, no opinions on the impact of accomplished works in these localities have been obtained.

There are also a couple of initiatives outside municipality's competence that are taking place in Riga and dealing with the inner yards of residential quarters. These were supported by European Capital of Culture – Riga 2014 and directed towards improvement of the environment in inner yards of residential quarters in the city. The first initiative or movement (Lielās Talkas Pagalmu Sakopšanas kustība) started in 2010 with an idea leading to a pilot project and evolved into a competition for residents in following years. Through this competition, residents could apply for professional support and resources to improve their inner yards. The actual format of the competition and implementation process has changed from one year to the next, but the idea that residents should be strongly involved in the design and especially implementation stages has been at the core of the initiative from the beginning. Besides the requirement to involve local residents, the initiative is focusing on providing an opportunity to improve recreational and leisure functions and infrastructure in the inner yards of residential quarters. Repairs of driveways, sidewalks and such are not supported due to limited financial resources for each project which makes it quite different from the repair works done by the Riga municipality (INT_11, 17.04.2014).

The whole process is led by an NGO (Pēdas LV) but done in cooperation with landscape architects, young architects, planners, and different sponsors. It is organized in several stages. First, there is the competition stage when the residents can submit applications, and the organizers select the best ones. Second is the design stage when students together with mentor(s) prepare a design for each yard in cooperation with the residents. Finally, there is an implementation stage when the designed project is realized on site largely by the residents. The main improvements that are normally requested by the residents are children's playgrounds, sometimes also greenery, and recreational area for adults (when yards are bigger). In the majority of cases, it is more of a repair work, but sometimes it is possible to give the yard a new image with only a few new objects. Besides, this is also a process that brings people together and has an impact on the local community (INT_11, 17.04.2014).

Overall, the initiative was focused solely in Riga only in 2013 and 2014 (previously there was one project in Riga and one project in each region of Latvia). Nevertheless, since it has become a competition (in 2011) one yard has been improved in Maskavas forštate each year (in 2014 those were already two yards) (INT_11, 17.04.2014; INT_06, 09.04.2014). It might not create a huge impact on the city level, but it has had a positive effect on local environment and community.

The other initiative supported by the European Capital of Culture – Riga 2014 (Pagalmu renesanse) and led by Latvian Association of Landscape Architects is going in the same direction but has more educational character and lacks support for the implementation. The target group is residents of multi-story housing residential quarters in Riga. The initiative provides an opportunity to invite a professional for a consultation on how to improve

the existing inner yard(s). Additionally, the initiative supports preparation of a design project for the yard together with the residents (Rīga 2014, 2013). On some occasions, this initiative has been used as a support mechanism for preparation of applications for initiative “Lielās Talkas Pagalmu Sakopšanas kustība” that has been described previously (INT_11, 17.04.2014).

Although “Pagalmu renesanse” does not provide resources and funding for the implementation of the designed projects, it still has a positive effect on the local community and potential of prompting some changes by residents in their immediate surroundings. Moreover, the consultations have been carried out with residents from 24 residential quarters in Riga, including those in Maskavas forštate and Avoti (Rīga 2014, 2013).

When looking at other public spaces, there was another initiative supported by the European Capital of Culture – Riga 2014. It was a project “Labas vietas TALKA” during which residents created ideas for a specific place in their district with the aim to improve it, make it safer and more interesting. One such project has been implemented in Sarkandaugava (in Alekša skvērs) – a small, previously largely unused square in the center of the district. The process involved idea collection activities with the residents based on which professionals prepared a project (Sarkandaugavas attīstības biedrība, 2013). It was then implemented on-site changing the image of the public space.

Besides all these initiatives taking place as part of the European Capital of Culture – Riga 2014, there have been other projects focusing on public spaces in Riga and going further beyond the improvements of the physical environment. One such project was “Radi Rīgu!” that was organized by the University of Latvia, Katholieke Universiteit Leuven, and private company SIA “ainavu projektēšanas darbnīca ALPS.” The project was created in a format of master classes and based on the principle of collaborative planning. It was focusing on Riga districts and five specific urban spaces (including Bolderāja and Maskavas forštate). The participants included architects, landscape architects, planners as well as students of these fields and they were assisted by international experts, architects and landscape architects (INT_17, 28.04.2014).

The motto of “Radi Rīgu!” project was ‘public space as an instrument of social revival.' The objective was to choose specific spaces in Riga and try to understand what is it in these spaces or neighborhoods that can be changed, improved, renewed or done so that it would also change the social environment of the neighborhood. In other words, the participants were working with the physical environment (public space) of the district or part of the district, but the impact was sought for the social environment. The activities of the participants included: choosing the urban spaces to work with based on certain criteria, understanding why these places were chosen, choosing and finding what needs to be done in these urban spaces, preparing and designing a project, and also finding the resources (funding) for implementation. It is also important to mention that the organizers

had an agreement with Riga municipality that the successful projects will be implemented (INT_17, 28.04.2014).

From the very beginning, the approach of "Radi Rīgu!" project was to involve everyone – Riga City Council (departments and Executive Directorates), local actors (NGOs and residents), in some cases also police, and other interested parties. The end products (projects) were presented to the Riga City Council and other actors. Interestingly, two out of five projects got approval for implementation. Both projects from the selected districts (in Bolderāja and Maskavas forštate) were not approved for implementation although, according to the organizers, the ideas were very good and well elaborated (INT_17, 28.04.2014). Nevertheless, the project in Maskavas forštate has been mentioned in Riga Sustainable Development Strategy 2030 as something that could be eventually realized.

Another project focusing not only on the improvements of physical environment but also on social and community aspects of an urban area was initiated by one of the Executive Directorates of Riga municipality (Austrumu Executive Directorate) in Avoti district. It took place between 2003 and 2007 as a pilot project in one specific street in Avoti – Mūrnieku Street. The aim of the project was to ensure preservation and improvement of the housing fund through the facilitation of attraction of resources from private proprietors (building and flat owners) as well as direct involvement of the residents in the improvement of the yards. Overall, the results of the pilot project included renovation of the street infrastructure, improvement of the quality of the yards and public spaces, and other activities. After the regeneration of the physical environment in Mūrnieku Street, the Directorate continued to work on the cultural and social life of this area through a variety of events till 2010. Essentially, this process stopped because no one from the local actors wanted to volunteer to take over the organizational part of these events (Uščа, 2013).

The majority of the previously described activities related to the improvement of the public space and infrastructure in Riga have required involvement and participation of residents and local NGOs. Therefore, it is quite logical that many activities that are carried out on a local scale (in the districts) by local NGOs largely include the same activities. Overall, local NGOs have a strong interest in improving the living environment of their districts which also includes improving the built environment. Some local NGOs have defined aspects that need to be improved in their area to make it a better place to live for the residents. These improvements are normally done within the capacities of each organization and the local community. They include clean-ups and bees, improvement of the yards of residential houses (through one of the available support initiatives), participation in improving local public or green spaces (through one of the available support initiatives), and implementation of minor improvements in the local district, e.g., setting up a bench (based on INT_02, 01.04.2014; INT_05, 08.04.2014; INT_06, 09.04.2014; INT_07, 11.04.2014).

If looking at specific cases of the selected districts, then it is possible to identify differences between the activities carried out by local actors in each study area. As mentioned before, there has been continuous work on improving inner yards in Maskavas forštate which cannot be seen in other districts. At the same time, local bees and clean-ups are an activity taking place in almost all of the selected districts (with the possible exception of Avoti). The only difference is that in some cases residents are keener on such activities and they are organized more often. Maskavas forštate, Avoti, Bolderāja, and Sarkandaugava have also been the focal areas of other initiatives and projects, but the successful implementation so far has been achieved only in Avoti (Mūrnieku Street) and Sarkandaugava (the example of Alekša skvērs). Overall, these differences are important for further analysis when attempting to understand the reasons behind different activities and processes in these areas.

5.2.3 Activities related to provision of public infrastructure

Public infrastructure is another broad topic that can include a variety of public services and facilities as already described when analyzing strategic actions. Overall, there are only a few domains of public infrastructure where some dissatisfaction with the existing services or shrinkage of a network of facilities can be identified in Riga. It is also quite clear that there is little that can be done to change the existing situation by other actors than Riga municipality (and their priorities have already been described in the context of strategic actions). Therefore, the focus of analysis of activities has been on education and culture facilities and services where some form of shrinkage has been identified.

The institution directly responsible for education and culture in Riga is Riga City Council's Education, Culture, and Sports Department. The Department manages all the municipality's facilities that provide education, cultural activities, and sports activities. It also means that the Department has been responsible for the optimization of educational, cultural, and sports facilities in the city to match the actual demand for these services. Overall, it has involved closure, reorganization or merger of some institutions as has already been described before when characterizing thinning-out of public infrastructure in Riga and its districts.

The Department also acts as facilitator and supporter of different initiatives (especially NGOs) in the fields of social integration, education, culture, and sports. In this context, the Department has established an NGO house in Riga where a variety of activities and events take place. These activities include seminars, workshops, courses, exhibitions, and so forth. On the one hand, establishing such institution can be seen as a gesture of goodwill from the municipality to promote cooperation with NGOs and facilitate their activities. On the other hand, creating just one such institution for all NGOs working in Riga is not sufficient to make an impact (especially for those NGOs whose main objective is to work within the spatial unit of their district and with the residents).

Another way of providing support for different initiatives is organizing project contests in the fields of social integration, education, youth, culture, and sports. The Department provides instruments for obtaining funding for different activities in relevant fields. This opportunity has been used by the local NGOs and local public institutions in the selected districts (e.g., in Sarkandaugava and Maskavas forštate). Moreover, this brings the discussion to the activities carried out by local actors in the selected districts.

Local NGOs have limited impact on formal education or the number of educational facilities in the district. In this context, they can only convey the opinions of the local community to Riga municipality on any problems related to the availability or quality of the provided services. However, most of the local NGOs have taken on the role or task of enriching cultural and recreational life in their communities by organizing local events or activities and participating in the city-wide cultural events with local activities (based on INT_02, 01.04.2014; INT_05, 08.04.2014; INT_06, 09.04.2014; INT_07, 11.04.2014). This response or initiative of the local NGOs to organize more events or activities in their districts cannot be seen just as a response to a process of shrinkage, especially as it is possible to identify that there has been a closure of a culture house only in case of Sarkandaugava. Essentially, the NGOs are responding to local demand (expressed by the residents) to have more events taking place in their vicinity.

In all the selected districts, local NGOs or local activists are organizing a variety of cultural and recreational events. These include anything from neighborhood or community festivals and events to art projects supported by external actors (normally as a part of larger culture festivals in Riga). They also include different workshops where residents and other participants can learn or create something new. The number, character, and frequency of the events depend on the capacities of each local NGO to mobilize existing resources and attract external resources (like funding through project contests). In general, it largely depends on one or few active people in the local community that are ready to implement their ideas on a voluntary basis using their own time. Some of these events have already become something of an annual tradition or have a potential to become one. Moreover, it has an added value of not only bringing local people together but attracting other visitors and putting some districts on the culture map of Riga (this has been especially the case in Sarkandaugava and also Bolderāja) (based on INT_02, 01.04.2014; INT_05, 08.04.2014; INT_06, 09.04.2014; INT_07, 11.04.2014).

In the context of education and culture, it is also important to mention some examples of local institutions in the selected districts, especially the specific cases of children and youth center “Laimīte” in Sarkandaugava and center “Koka Rīga” in Avoti. These two cases are rather different and also cannot be seen as a general trend in the whole city as many districts lack similar institutions. Nevertheless, those are interesting examples of local public institutions that have managed to fill some gaps in the provision of cultural facilities in their respective districts.

Children and youth center “Laimīte” in Sarkandaugava is providing hobby education and sports courses for mostly locals but also other residents of Riga and surrounding municipalities. The official target group of the center is children and young people from 3 years to 25 years. However, after the closure of local culture house, the center has taken on the role of providing some activities also for adults (mainly seniors). The center has been successful in obtaining some funding through project contests for activities for seniors (sports and handcrafting) for which there seems to be a great demand. Besides the hobby groups, the center also hosts several events – these are different kind of cultural events as well as community events in cooperation with the local NGO. In other words, children and youth center “Laimīte” has partially taken on the role of local culture and sports center for everyone within their capacities (INT_15, 25.04.2014).

Centre “Koka Rīga” in Avoti is functioning as a local community center providing a venue for different cultural and community events since its opening. It is not center’s main function, but it has filled the gap of the cultural and social center for two adjoining districts in the short time of its existence. As of 2014, the center is more focusing on hosting cultural and community events. The management of the center tries to be forthcoming to all cultural and social initiatives within their capacities, and for the local community events provides the venue free of charge. Admittedly, the interviewees state that the center has become a social hub for Avoti and Grīziņkalns districts. It has also created a positive impact on the surrounding areas where locals have seen a reduction of illegal activities, e.g., prostitution (INT_08, 14.04.2014; INT_09, 14.04.2014).

5.2.4 Summary of the activities

The previous subchapters describe the activities related to population loss, degradation of the built environment, and provision of public infrastructure in Riga that are carried out by different actors. The results show that there are only a few activities that are directly tackling the issue of population loss on the national and city level. However, other activities that can have an indirect effect on the existing situation can be identified on all spatial scales (national, city, and local), but their impact at the time of the study could not be assessed.

In contrast to population loss, the issue of the degradation of the built environment has initiated a comparatively great variety of activities on the city and local level. The actor groups that are responding to the existing situation in Riga include the local government, different creative initiatives, developers, local NGOs, and residents. In general, it is possible to distinguish two types of activities. First, there have been changes in governance system as new institutions or organizations have been created to deal with the emerging challenges. Second, there are different projects or initiatives that aim to improve the existing situation on-site. These projects can vary from regeneration or revitalization projects implemented by the local government or developers to seasonal clean-ups and bees in

specific Riga districts. The full summary of these activities can be found in Table 19 (Chapter 5.3). Regardless the seemingly large number of activities in response to the degradation of the built environment in Riga, it has to be noted that these activities often have a very local impact and they are generally uncoordinated on a larger scale. Also, it is possible to identify lack of cooperation among actors in several instances which results in relatively low overall impact.

Finally, there are also a few activities related to the provision of public infrastructure that can be identified on the city and local level. First of all, the local government is responsible for closure, reorganization or merger of several educational institutions throughout the city which can be seen as a response to shrinking population or demand in specific parts of Riga. Also, the municipality provides support for different initiatives which allows the local NGOs or local activists to organize a variety of cultural and recreational events. However, the activities carried out by the local NGOs is not a direct response to processes happening in the city, but a response to a local demand for locally-based events.

5.3 Responses to urban shrinkage in Riga

The previous subchapters provide insights into different strategic actions and activities linked to the processes of urban shrinkage (population loss, degradation of the built environment, and provision of public infrastructure). However, it has to be understood that although the actions have been described separately, they occur more or less at the same time and parallel to all the other processes taking place in Riga (including the phenomenon under study). In general, that makes the analysis of responses very challenging as many aspects of urban life come into play.

The main guiding criteria for analysis of the responses have been the type or character of the action and the outcome, but the outcome or intended outcome has been used as the main determinant of response type (especially, in the case of strategic actions that are rather general in their description). Additional considerations have been given to the spatial scale on which the outcome is foreseen to make an impact or makes an impact. In some cases, an action can be associated with one response type on a local level, but with a different one on the city level which is consistent with the notions expressed in resilience literature.

The strategic actions and activities have been analyzed separately due to their differences. Firstly, a summary of main strategic actions in the context of population, built environment, and public infrastructure has been provided in Table 18. Overall, this is a generalized compilation of main goals and objectives of the national and local government in response to urban shrinkage. Each of the proposed actions has also been characterized by the intended outcome and, based on that, linked to relevant response type.

As can be seen from Table 18, the intended outcome of the strategic actions related to the population by both the national and local government are directed towards changing the trend of population decline. The proposed actions in various planning documents include several identifiable direct and indirect goals or measures that are directed towards creating a favorable situation for causing changes in the negative natural population growth and negative net migration. Whether the proposed strategic actions will achieve the intended outcome is debatable, but what is rather clear that the overall response, in this case, can be characterized as mitigation.

Table 18 Summary of the main strategic actions in response to urban shrinkage in Riga (own compilation)

	Actor	Proposed action(s)	Intended outcome	Associated response
Population	National government	Implementation of a comprehensive support system for families and promotion of return migration through concrete aid measures	Reduction of population loss on national level	Mitigation
	Local government	Increase of job opportunities and provision of appropriate and comfortable living environment	Stopping the population decline and facilitating population growth in Riga	Mitigation
Built environment	Local government	Promotion of future development in built-up and degraded areas	Revitalization and development of degraded areas in Riga	Adaptation/ possible transformation
		Dealing with environment degrading territories and buildings through demolition or maintenance	Increased environmental quality in Riga	Adaptation
Public infrastructure	Local government	Provision of integrated network of public services through creation of necessary facilities or improvement of existing ones	Optimized network of public services in Riga while planning for population growth	Adaptation

Mitigation, essentially, is not part of the resilience concept used in this study, but it has been much discussed in the climate change literature alongside adaptation. Overall, mitigation tends to be associated with prevention of a certain process or its future impacts whereas adaptation – with adjustments to reduce the negative impacts of the same process (Pielke, 1998, p. 159). Lutz (2007, p. 21) quite accurately points out in his discussion of adaptation versus mitigation in the context of demographic change that adaptation policies are aimed at reducing the possible negative impacts of unavoidable (given) changes. However, the demographic change (at least in theory) can be influenced by policies directed at migration and fertility. His justification is that the demographic processes (at least in the long-term) are not unavoidable or given which makes the mitigation an alternative. The same notions can be applied to the proposed strategic actions

related to the population by the local and national government. They are directly or indirectly aimed at affecting fertility and migration.

The process of adaptation to urban shrinkage (and specifically to population loss) in the city occurs in other domains of urban life as can be seen from the proposed strategic actions related to the built environment and public infrastructure by the local government. It has been discussed in the theoretical chapters on urban shrinkage that one of the negative impacts of long-term population loss in the city leads to degradation of the built environment. By promoting policy that is aimed at dealing with the emerging situation, the municipality can be seen as adapting to the general trend that is already present in the city and hence unavoidable. The intended outcome to achieve improvements in the environmental quality in Riga is a further affirmation that adaptation is the likely response in this context.

The proposed strategic actions related to the public infrastructure that can be found in the planning documents of Riga are slightly controversial. On the one hand, it has been made quite clear that there is still some need for optimization of the existing public infrastructure, but, on the other hand, it has also been stated that new facilities need to be created in some Riga districts. The literature on urban shrinkage suggests that one way how any city adapts to losing population is by optimizing its network of public services to reduce the costs for a municipal budget which is consistent with what has been proposed for Riga. However, the pattern of growth and shrinkage that is found in the city could be one of the reasons why there is a need for additional public facilities in some Riga districts. Either way, the proposed actions are more in line with adaptation as a response to the existing situation on the city level, especially taking into account that strategic actions are also addressing the necessary improvement in the quality of the available public services.

The responses shown in Table 18 are consistent with what is being proposed to be done on the national and city level, but some of the strategic actions suggested in the planning documents of Riga can have an impact on the local level that can lead to a different type of response. For example, based on the general aim to increase job opportunities in Riga and ensure appropriate and comfortable living environment, the municipality has defined priority development territories where comparatively intensive commercial and residential development projects are facilitated. Some of these territories can be seen as being in direct competition with other areas in Riga where such development is not planned or might be facilitated later. The possible outcome might be an improvement of the overall population trend on the city level, but it also can potentially lead to further decline in already less advantageous Riga districts both regarding population and quality of the built environment.

Different response on the local level can also result from the promotion of revitalization and redevelopment of degraded areas in Riga. If concentrated in a specific district, this could lead to the transformation of the existing urban area although on the city level it

would still contribute to adaptation. It is consistent with notions expressed in resilience literature on social-ecological systems and demonstrates the potential impacts of actions across different spatial scales. Several examples of such cross-scale impacts can be identified in Riga but in the context of activities.

Similarly to strategic actions, the activities can be categorized under the same three headings or domains of urban system – population, built environment, and public infrastructure. Firstly, it is possible to talk about only one set of direct activities related to population. These are activities linked to the implementation of several aid measures for the provision of support for remigration as has been suggested in the national Action Plan for Support of Remigration 2013-2016. The outcome or impact of the implemented activities at the time of the study was still unknown, but the general character and the objective of the activities allowed to conclude that mitigation is the relevant response type in this particular case (the same as in the context of related strategic actions).

A comparatively greater number and variety of activities in response to urban shrinkage in Riga can be identified in the context of the built environment. A general overview of main activities carried out by different actors is provided in Table 19. It provides insights into the character of each activity, the overall outcome or impact as well as the associated response type. Taking into account that majority of these activities are linked to specific study areas through their local character or impact, the districts, where these activities have been identified, have also been indicated in the overview when relevant.

In general, it is possible to distinguish two general groups of activities. First, there are changes in governance system in order to deal with the emerging challenges through the creation of new institutions or organizations. Second, there are a variety of projects and initiatives that are dealing or helping to deal with the existing problems on-site (throughout Riga or locally). In Table 19, the activities related to changes in governance system are shown only for the local government. However, it can be argued that the emergence of all the organizations, movements or initiatives (mostly in the form of creative initiatives) that have taken place in response to degradation of the built environment or with the purpose to improve the quality of the built environment in Riga can also be added to this group of activities. Either way, linking these changes in governance system to a specific response type is rather challenging. On the one hand, the emergence of a new organization or structure in the existing system might be perceived as transformation (it can be seen as a new beginning). On the other hand, all these organizations or structures are not entirely new. If reflecting on the process how these initiatives or municipal bodies have come to be, it becomes clear that institutional units or people with similar ideas or objectives have already existed before. The undesirable situation emerging from urban shrinkage in Riga (and other aspects) has worked as a catalyst to make these actors come together under one umbrella organization and work more efficiently or more purposefully towards dealing with the problem(s) of their interest. It

links it to the process of adaptation when the existing resources are mobilized in time of stress to deal with the emerging situation. Moreover, the objective of these organizations or institutions is to tackle the negative effects of urban shrinkage. In most cases, it results in adaptation on the city level.

The remaining activities that have been described in Table 19 are already oriented towards dealing with particular situations on-site either in specific locations or throughout Riga city. The outcome of most of these activities can be characterized by improvement of overall quality of the built environment in Riga which is consistent with adaptation on the city level. However, more localized outcomes or responses not always can be classified in the same way.

Essentially, the analysis of responses based on the reviewed activities and their outcomes has been done on the city and district level, but in many cases, the activities take place in a lot smaller units – parks, yards, buildings, and so forth. In some cases, it means improvements in quality of this unit (e.g., revitalization of public spaces or repairing of the yards) which is consistent with adaptation, but, in others, it is possible to observe more radical changes like demolition or loss/change of function that is characteristic to transformation. At the same time, one completely transformed unit does not ensure the transformation of the whole district, it leads to some improvements in quality of the larger urban area which again results in adaptation. It has been consistent across nearly all study areas except Ķīpsala where transformative activities have been carried out by private developers on a larger scale resulting in very distinct changes (structural, functional, and also social) in the district. Something similar was also attempted in Avoti district, but it was induced by the local government and localized to one street. Although the changes in the area where the pilot project took place are significant, it was not sufficient to induce further transformative activities throughout the district.

Finally, there are also few activities that are related to public infrastructure. Overall, only one of the identified activities can be directly linked to urban shrinkage, and that is optimization of the network of educational and cultural facilities in Riga which is carried out by local government. Essentially, this is a citywide process in response to population loss and aiming at obtaining an adequate network of educational and cultural facilities for the shrinking demand. The optimization of a network of any public facilities in times of declining population can be seen as adaptation to the existing situation due to the cross-sectoral impacts of urban shrinkage.

Table 19 Summary of activities related to the built environment in Riga by various actors (own compilation)

Actor(s)	Activity	Outcome/impact	Associated responses (city - district)	Study area(s)
Local government	Creation of new institution for dealing with degraded and abandoned buildings in the city	Improved process/results in dealing with environment degrading buildings	Adaptation – N/A	N/A
	Dealing with environment degrading buildings throughout Riga	Demolished or preserved environment degrading buildings leading to improvements in quality of built environment	Adaptation - Adaptation	Avoti, Maskavas forštate
	Creation of a competence center on renovation and restoration of historic wooden buildings in Riga	Unknown	Adaptation – N/A	N/A
	Revitalization and regeneration of public spaces in Riga	Improved quality of Riga's public spaces	Adaptation – Adaptation	Avoti, Maskavas forštate
	Repairing inner yards of residential quarters throughout Riga	Improved quality of Riga's public spaces	Adaptation – Adaptation	Bolderāja
Local government with local actors	Renovation of the street infrastructure, improvement of the quality of the yards and public spaces in one specific urban area in Riga	Improved overall quality of the built environment in the particular urban area	Adaptation – Adaptation	Avoti
Creative initiatives	Making use of abandoned buildings in Riga	Revived several buildings in Riga	Adaptation – Adaptation	Maskavas forštate
	Provision of support and resources for improvement of inner yards in residential quarters of Riga	Improved quality of Riga's public spaces	Adaptation – Adaptation	Maskavas forštate
	Provision of consultations on possibilities to improve inner yards in residential quarters of Riga	Varies, in best cases some improvement in quality of Riga's public spaces is achieved	Adaptation – Adaptation	Avoti, Maskavas forštate
	Re-invention of public spaces in Riga	Improved quality of Riga's public spaces	Adaptation - Adaptation	Sarkandaugava
Developers	Re-development of old/historic building stock in the district	Gentrification of the district, changes in building structure, function, and society	Adaptation – Transformation	Ķīpsala
Local NGOs (with residents)	Clean-ups and bees	Improved quality of the public spaces/problem areas in Riga districts	Adaptation – Adaptation	Maskavas forštate, Sarkandaugava, Bolderāja, Ķīpsala
	Improvement of the inner yards of the residential quarters	Improved quality of the public spaces in Riga districts	Adaptation – Adaptation	Maskavas forštate
	Participating in improving local public spaces	Improved quality of the public spaces in Riga districts	Adaptation – Adaptation	Sarkandaugava

Other activities related to public infrastructure or services are essentially a response to the existing demand for cultural, recreational or community events in particular districts. It is the case in Maskavas forštate, Sarkandaugava, Avoti, and Bolderāja where local NGOs organize a variety of events to enrich the cultural, recreational, and educational life of the local community and their guests. The outcomes of this process are rather diverse, from changing the image of the district as it has happened in Sarkandaugava to the general improvement of the quality of the existing social life. In this context, these activities can be seen as localized adaptive responses, but in a proactive way. It has an indirect, but positive impact also on other aspects of urban life.

Besides the local NGOs, also local institutions have emerged as key actors in ensuring organization of cultural and community events in the districts. They provide venue and support so that these events can take place and fill the gap of missing (Avoti) or closed (Sarkandaugava) local facilities. These institutions normally work in close cooperation with the local NGOs and the overall outcome is similar to that described in the previous paragraph resulting in adaptation to the existing situation.

It also has to be noted that the activities related to built environment and public infrastructure have an indirect impact on the population. In a way, it is a process opposite to that which has been characterized as a 'vicious circle' of urban shrinkage. In general, the improvements in the living environment (especially those that have been implemented involving residents), as well as all the events taking place in the districts, increases the willingness of residents to stay and live in their neighborhood. It has proved to be the case in Maskavas forštate where residents are trying to remain in the district even when they need to change their accommodation (switch to a larger or smaller apartment). At the same time, it is probably only taking place in that part of the district where the local NGO is most active.

To summarize, it is possible to distinguish two main responses on the city level and also two responses on the district level in Riga. On the city level, the actions taken by different actors can be categorized either as attempts at mitigation (especially in the context of strategic actions) or adaptation to the existing overall situation. On the district level, the dominant response is adaptation, but in one study area transformation emerges as the adequate response type. It has also been mentioned when analyzing proposed strategic actions that some of them might facilitate decline in several Riga districts which could result in another response type on a local level. The process of decline is also being facilitated by the inaction of some of the actors, e.g., proprietors of the degraded and abandoned buildings that do not have the possibilities or willingness to deal with the existing challenges. As a result, close attention needs to be paid to such districts as Avoti and Maskavas forštate which might be at risk of experiencing a further decline (if not throughout the district than in some parts of it).

6 Identifying sources of resilience to urban shrinkage in Riga

Besides understanding the responses to urban shrinkage in Riga (RQ1), it was also deemed important to identify those aspects or preconditions that facilitate processes of adaptation or transformation in response to the phenomenon under study (RQ2). In the theoretical part of this work, these preconditions have been defined as sources of resilience. Furthermore, seven different aspects are suggested as facilitators of adaptation and transformation. The same aspects (leadership, networks, resources, learning, people-place connection, common cause, and the system of institutions and governance) are used to structure the analysis in this chapter. The specific analytical and theoretical considerations are explained at the beginning of each subchapter.

6.1 Leadership

Leadership or presence of leaders and active agents (key individuals that have the ability to act or make things happen (Amundsen, 2012)) has been identified as a factor or driver of resilience in several studies (Amundsen, 2012; Magis, 2010; Kulig et al., 2005 and others). For this reason, the presence of such key individuals has also been analyzed as a source of resilience in Riga and more specifically in the five study areas. Additionally, it has been attempted to look at the actions or characteristics of the key individuals to understand their role and impact on the processes occurring in the study areas. It is done with the objective to identify connections between the types of key individuals (or types of leadership) that have been suggested in the literature (e.g., Gupta et al., 2010) and different responses to urban shrinkage.

First of all, the interviews and secondary information analysis allowed to draw conclusions on the presence of leadership in most of the study areas and gave some insights into the situation in Riga in general. The main results are summarized in Table 20 below.

Table 20 Presence of leaders and active agents[18] in Riga and the study areas (own compilation)

	Riga	Maskavas forštate	Avoti	Sarkandaugava	Bolderāja	Ķīpsala
Leader	-	+	-	+	+	+
Active agent(s)	+	+	+	+	?	+

During the interviews, some indications that Riga city, in general, is lacking a strong or necessary level of leadership were given. Some experts quite clearly suggested that for

[18] Explanation: "+" – a leader or active agent(s) can be identified; "-" – a leader or active agent(s) cannot be identified; "?" – no information

implementation of major changes in the city resulting in a positive impact in specific parts of Riga or the city as a whole, Riga (Riga municipality) needs a strong political will or a strong leader with a vision for future (a visionary leader). Moreover, it was given to understand that the current mayor of Riga does not possess the ability to be such a leader (INT_18, 29.04.2014). At the same time, it cannot be denied that some active agents with the drive to make a difference are present within the system of institutions in Riga municipality. These active agents were identified during the study and mentioned by other actors (outside Riga municipality). These individuals were indicated as people who understand that changes in Riga are needed and are trying to implement some activities leading to these changes within their competence and capacities. Unfortunately, the complex processes taking place in the city prevents conducting further analysis on whether any activities carried out by these active agents has had a real impact on the situation in Riga. However, it can be assumed that due to the comparatively narrow scope of the activities of each active agent within Riga municipality (related to their specific field of interests) as well as lack of coordination of these activities among different active agents, the impact is minimal or insufficient to make a difference at present. One of the experts also expressed that although some key individuals within Riga municipality understand what needs to be done or the actual situation in Riga, their activities will not make a significant impact until the same understanding or awareness is achieved throughout the institution (INT_04, 03.04.2014).

When looking at the situation in the five study areas, it is possible to identify leaders in almost all of the selected districts (except Avoti) as well as active agents in four districts (unfortunately, there is a lack of information on the presence of active agents in Bolderāja). Moreover, it is possible to identify interesting differences among all study areas that allows making some conclusions regarding different types of key individuals.

In Maskavas forštate (or more precisely in one specific part of Maskavas forštate), there is a local NGO (association) that is led by a strong leader and involves several active agents – heads of NGOs on building level or NGOs created for the implementation of specific activities. The activities of the Association are mostly directed towards the enrichment of community life and social integration through different events as well as improvement of the local environment - all very locally based projects for which the support has been obtained from available funding instruments. Essentially, the implementation of such activities has been initiated by the leader of the Association who is also the person preparing and submitting applications for funding (including generating ideas for these activities). Active agents are mostly undertaking the role of ensuring communication between the Association and the residents which result in a comparatively greater involvement of residents in the activities of the Association (INT_06, 09.04.2014). Overall, leadership in Maskavas forštate has a greater focus on facilitating different undertakings by residents; hence it corresponds to entrepreneurial leadership although some aspects of collaborative leadership can also be identified.

Another district where both a leader and active agents can be identified is Sarkandaugava. In this case, it is again possible to talk about the presence of a strong leader, but the active agents have a slightly different role. They are providing their skills or knowledge to facilitate the work of the local NGO in implementing different activities or achieving specific objectives (each active agent is an expert on specific issues and has specific responsibilities). Interestingly, that the person considered a leader is responsible for attracting funding for different activities (similarly to Maskavas forštate) among other things. At the same time, the scope of activities taking place in Sarkandaugava is wider than that in Maskavas forštate and involves more actors. Besides the focus on enriching local cultural life and improvement of the local environment, the residents of Sarkandaugava are also trying to tackle causes of some undesired processes instead of just focusing on dealing with the outcomes. Moreover, they cooperate with local public institutions, enterprises, different artists or cultural initiatives, and others (INT_05, 08.04.2014; INT_15, 25.04.2014). It has even been mentioned in one of the interviews that one hears about many things that are happening in Sarkandaugava, but the participation or involvement of the residents does not seem to be so pronounced or cannot be felt (INT_11, 17.04.2014). To sum up, leadership in Sarkandaugava can be characterized by facilitation of different undertakings (entrepreneurial leadership), but there is a greater focus on ensuring cooperation with different actors or motivating other actors to take charge of some activities that can be associated with collaborative leadership. Moreover, it could also be possible to talk about some aspects of visionary leadership in case of Sarkandaugava as there are clear objectives (strategic actions) that the local NGO wants to achieve.

Visionary leadership has played an important role in Ķīpsala, and it is related to developers of the district (not so much to the local NGO or Riga municipality). The process how certain parts of Ķīpsala have been transformed is a result of work of people who had a specific vision for this area of the city which was confirmed during the interviews. Interestingly, the developers that have managed to implement their idea of Ķīpsala over the years and are continuing to do so have become residents of the district and have also founded a local NGO to protect their interests and interests of other wealthy residents of the district (INT_07, 11.04.2014). Taking into account that Ķīpsala is the only study area where it is possible to talk about transformation as a dominant process or response, it allows concluding that visionary leadership or leaders with vision are crucial for implementing fundamental changes.

The two districts where it is difficult to define a type of leadership is Bolderāja and Avoti. In the case of Bolderāja, there is a lack of information on the role of the leader leading the local NGO or presence of other active agents. However, based on the secondary information sources, it can be said that the form of leadership there might involve both entrepreneurial and collaborative leadership (similarly to that identified in Maskavas forštate).

In Avoti, however, it is clear that there is not one local leader. It is possible to talk only about a couple of active agents that are leading local institutions or organizations implementing specific activities. However, beyond these specific activities, little else was taking place in the district at the time of the study as there is no one whose interests lie with improving the overall situation in Avoti and has abilities to take steps in doing so. Interestingly, there have been attempts by local government through a pilot project (done in cooperation with local actors) to form an active community, but no one from the residents came forward and took over the leadership role in the organization of local community events which eventually stopped (Ušča, 2013). In general, it allows concluding that there are very few activities (if any) that would be directed towards improvement of the existing situation taking place in a district without a leader or in the absence of some form of leadership. Also, the active agents (although important for implementation of specific activities) cannot replace a leader or fill the gap created by the absence of leadership.

To conclude, the analysis of the situation in Riga suggests that it requires a presence of a leader with entrepreneurial and collaborative skills for adaptation to take place, but a visionary leader might be needed for the occurrence of transformation or implementation of any fundamental changes. Moreover, the lack of a leader limits the activities taking place in response to undesirable changes. Active agents can carry out some activities, but they cannot be considered a replacement for a leader.

6.2 Networks

Networks (formal and informal; community, social and other) play an important role in implementing different responses to urban shrinkage. The notions found in resilience literature suggest that networks can function as a tool for accessing all kinds of support in times of adversity as well as to ensure information flows among actors. This role of networks was also identified in Riga, but not consistently among all actors or spatial units. Essentially, different networks are used to gain access to additional support or increase involvement in different activities by local actors in the selected districts (e.g., local NGOs and local institutions) or different creative initiatives (e.g., movement Free Riga). The same actors use networks also for exchanging and disseminating information.

A slightly different situation emerges, for example, with Riga City Council and its institutions. Overall, there is a wide formalized network of municipal institutions (departments, executive directorates, and so forth) that should be working together towards dealing with the challenges in the city. These institutions are also cooperating with several national institutions and occasionally with other organizations in dealing with particular issues that require the involvement of more actors. In general, the network structured around Riga City Council is too wide to identify all actors that have played a role in putting forward the strategic actions associated with urban shrinkage in Riga or implementing activities in response to urban shrinkage. It becomes even more challenging when attempting to consider informal or hidden partnerships as part of the network. Due to these difficulties and

the limited scope of the empirical study, the analysis will focus mainly on understanding more localized networks that can be linked to specific activities. Additionally, few general reflections on the role of networks on the city level that have transpired from the interviews will also be provided.

As already mentioned before, local actors in the study areas and different creative initiatives are drawing on the available networks to implement their activities or exchange and disseminate information. Overall, there are both similarities and differences among the reviewed examples of networks. Several examples of specific actors or activities will be reviewed in this subchapter to provide sufficient insights into the existing situation in Riga.

One of the groups of local actors that provides useful insights into the topic is local NGOs. The information obtained through the interviews allowed to gain fairly comprehensive insights into networks used by the local NGOs in Sarkandaugava and Maskavas forštate which will be used as two main examples for this actor group. It also has to be noted that there are clear differences between structure and elements of the networks employed by both local NGOs, but their activities are similarly oriented towards adaptation.

In the case of Maskavas forštate, the main network used by the local NGO (Association) is comprised of two actor groups – residents (including other localized NGOs that have been formed in the area) and different institutions of Riga City Council. Essentially, there is an internal network of localized NGOs (normally a union of residents from one specific building created with an aim to deal with issues of building maintenance) and individuals (residents). It helps the Association to disseminate information among local residents about different activities which results in a relatively high level of participation in these activities (INT_06, 09.04.2014). This has been expressed not only in the interview with the representative of the said NGO (INT_06, 09.04.2014) but also in the interviews with representatives of other organizations (INT_11, 17.04.2014) and observed by the researcher in one of the community events. Taking into account that the NGO is strongly focused on improving the existing living environment in the district (mostly existing public spaces which is something doable within their capacities), this internal network is a crucial tool for attracting necessary number of participants (workforce) to accomplish the set goals.

Another aspect that possibly differs the local NGO in Maskavas forštate from other similar organizations in Riga districts is the rather purposeful widening of this internal network by adding members to the Association. From the interviews with the representatives of three different local NGOs in Riga districts, it became clear that normally the number of official members in these organizations are kept to a minimum (only people actively working in the interests of the organization are made members). That is done to avoid unnecessary complications with the administrative procedures that are required for decision-making in

such organizations (INT_02, 01.04.2014; INT_05, 08.04.2014). In the case of Maskavas forštate, for example, all the people participating in a community event that were not yet members were asked to join the Association. It is possible that by making this link with the Association official, it also facilitates the sense of belonging to the organization or the local community which in turn ensures high participation of the residents in different activities.

The local NGO in Maskavas forštate also cooperates with institutions of Riga City Council. Overall, the closest cooperation has been developed with the respective Executive Directorate, City Development Department, and Housing and Environment Department. According to the interviews, the cooperation is seen as good, and there are some benefits emerging from this cooperation. On the one hand, the Association can access some funding for their activities through project calls organized by Riga City Council's institutions. On the other hand, this cooperation facilitates the exchange of opinions between the residents and the local authority (INT_06, 09.04.2014). However, it has to be mentioned that there are no major ongoing disputes or conflicts on specific development projects or trends in case of Maskavas forštate that exist in the case of Sarkandaugava, Bolderāja, and also Ķīpsala. Therefore, the cooperation, for example, between City Development Department and the local NGO in Maskavas forštate is not affected negatively by unresolved issues or unwelcome development projects.

Besides these two groups of actors that dominate the network around and within the local NGO in Maskavas forštate, there are other actor groups that emerge as elements of their network. First of all, they have established an ongoing link with one of the creative initiatives ("Lielās Talkas Pagalmu Sakopšanas kustība") which provide the residents with support (financial, material, and human resources) for improvement of their public spaces. They have also managed to attract the attention of sponsors (e.g., Rockefeller Foundation) that has given them funds for a similar purpose (INT_06, 09.04.2014). However, the latter has been a single instance which might not occur again. To sum up, the local NGO in Maskavas forštate has a strong internal network of organizations and individuals (residents) that facilitates dissemination of information in the area and implementation of different activities. However, the network of external actors is comparatively limited and mainly aimed at attracting additional resources that cannot be mobilized within the organization and that are aimed at the realization of specific activities.

The case of Sarkandaugava is slightly different. The local network within the district is a lot more diverse than that in Maskavas forštate with less focus on the residents, but a greater accent on different locally based institutions and organizations. The local NGO has established a cooperation with children and youth centre "Laimīte", local library, Department of National History Museum of Latvia "Dauderi", Psychoneurological Hospital of Riga, and locally-based enterprises (e.g., Aldaris brewery which is now part of Carlsberg Group or Joint Stock Company "Riga Electric Machine Building Works"). The

ties and relationships with each institution or organization have, however, been developed at different points in time and result in different types of support. For example, the cooperation with children and youth center “Laimīte” has been there from the very beginning and the link between the NGO and the institution is strong (a representative of the center is also an active member of the NGO). The benefits from the cooperation are such that the local NGO can use the premises of the center for their events and activities as well as gain support for dissemination of information (the center is well attended by the residents, not just children and youth). At the same time, the cooperation with Aldaris brewery (one of the major local enterprises) has developed gradually. First, the brewery participated in one of the big clean-ups in Sarkandaugava. Eventually, the brewery became also one of the sponsors supporting the local NGO and its activities. The more recent cooperation was established in the context of the district festival which took place in May 2014 (a similar pattern of cooperation can also be identified with JSC “Riga Electric Machine Building Works”). The NGO has also planned to join forces with some of the local partners to try and influence the development plans for the district that are seen as negative by the residents (based on INT_05, 08.04.2014; INT_10, 17.04.2014; INT_15, 25.04.2014).

The network of external partners is also fairly wide. Similarly to the local NGO in Maskavas forštate, the network of external partners includes Riga City Council’s institutions. According to the interviews, the cooperation with, for example, City Development Department has been characterized as “ok.” It arises from the situation that the residents are strongly opposed to one of the infrastructure projects within the district, but so far the decision-makers have largely ignored the opinion of locals (INT_05, 08.04.2014). It creates certain tension for the partnership, especially, as it is one of the primary issues that the local organization wishes to solve.

Another group of external partners that seems to play an active role in Sarkandaugava are different creative and cultural initiatives. Since the first cultural festival in which Sarkandaugava took part, many more initiatives expressed interest to do something in Sarkandaugava or involve the district in other citywide cultural events. This so-called popularity of Sarkandaugava also attracted the attention of universities and researchers – quite few research projects in architecture, urban planning or related fields have focused on this district over the last years. If the cultural events have brought recognition to the district as well as additional funding for local activities, then research projects have resulted in materials that the NGO can use for their work and which would not be otherwise available (INT_05, 08.04.2014).

This variety of partnerships around the local NGO in Sarkandaugava can be largely attributed to the personal and professional networks of the members of the organization. It can also be hypothesized that the strong presence of the NGO in social media (e.g., Twitter and Facebook) has helped to attract new external partners through raising their

popularity outside the district. At the same time, the interviews reveal that occasionally there are problems with the involvement of the residents in the activities (this has been expressed not only by the representatives of the NGO but also by other interviewees; INT_05, 08.04.2014; INT_11, 17.04.2014). It can be explained with underdevelopment of internal network of residents within the district. The NGO has an aim to find key people in each residential building or quarter that could mobilize or provide access to residents (a notion similar to the localized NGOs in Maskavas forštate), but it was not realized at the time this study was carried out (INT_05, 08.04.2014).

To summarize, the two examples show that networks (internal/localized and external) are crucial for the implementation of any activities for local NGOs. The structure and main elements of the available networks quite often determine the activities these organizations can implement in their districts as they provide access to resources and other forms of support for key individuals. The identified differences in both cases influence specific characteristics of the activities, but not the overall response to the existing situation. It allows concluding that for adaptation to take place some form of support network involving internal and external actors has to exist.

The networks can also be formed around different local institutions. In one of the previous examples, it was already illustrated that locally based institutions are part of a local network of actors developed around a local NGO (the case of Sarkandaugava). However, for example, in Avoti where there isn't such an organization, a network has formed around one local institution – the center "Koka Rīga" (a municipal institution that has been created as a competence and social center). According to the interviews, it is possible to distinguish a localized network that is formed from actors from a certain geographical area (including two adjoining districts – Avoti and Grīziņkalns as the center is located on the official borderline) and wider or external network of actors. The localized network is mainly formed of different organizations and institutions – locally based NGOs, local businesses, schools, active agents organizing flea market (the main local event in Avoti), and others. In one of the interviews, it was said that they are "living as one family" in Avoti (INT_08, 14.04.2014) which describes the ties that have been developed based on cooperation and help. At the same time, these ties are still largely linked with the functions of the center (cultural, social or tourism).

The external network of the center "Koka Rīga" mirrors the localized network in the sense that it is also linked with the main functions of the center. It includes other organizations and institutions dealing with the same issues. The difference is that a major part of this network is comprised of Riga City Council's institutions (especially the respective Executive Directorate) as the center is also a municipal institution. Additionally, the external network also extends to private proprietors and other stakeholders interested in or dealing with old wooden buildings in Riga (especially their renovation and maintenance) which is the main priority of the center (INT_08, 14.04.2014; INT_09, 14.04.2014).

Overall, it is possible to see similarities in the general structure of networks formed around a local NGO and a locally based institution – they both include internal or localized and external actors that help to implement different activities. The similarities also extend to the response type that is associated with activities carried out by these organizations or institutions. Based on that, it is possible to apply the same conclusion related to the existence of networks including internal and external actors as a precondition for adaptation to the existing situation in the city.

When analyzing organizations or initiatives that are not linked to a specific territory in Riga (at least not in the context of their general aims and objectives as well as location), other aspects related to networking and networks emerge. Several examples of different creative initiatives are described to illustrate this. The first example that is interesting to look at is movement Free Riga which is focusing on bringing life back to the abandoned buildings in Riga (an issue directly linked with urban shrinkage). This movement started in a very informal way – a group of people coming together with a common interest in mind but without any formalized ties or organization (INT_04, 03.04.2014). Essentially, it can be viewed as a group of networked individuals through personal or professional connections that at some point in time decided to join forces and approach an issue that was on their minds for some time. The first step was to see if this issue is important also for the society and that was achieved through social media (mostly Facebook). Overall, the response rate to the announcement inviting to do something about the empty buildings in Riga was high (a number of 70-100 thousand people reached was mentioned in the interview). This rather successful promotion through social media attracted much attention from other media as well as from different institutions and other actors. As a result, first communication was established with such state and municipal institutions as Riga City Council's Property Department and State Joint Stock Company "State Real Estate." Moreover, movement Free Riga was able to start compiling data on cultural and social initiatives that would be interested in utilizing the abandoned buildings in Riga and were also contacted by first private proprietors that were willing to establish cooperation (INT_04, 03.04.2014). Overall, the movement had established a network with key actor groups that are necessary for the implementation of their activities – state and municipal institutions, private proprietors, and different cultural and social initiatives already at the fairly early stage of their existence. Additionally, they launched a web page with a tool for data collection on abandoned buildings in the city where everyone could report his or her observations.

The ties and relationships between movement Free Riga and the respective actors or actor groups, however, differ considerably. For example, cooperation with Riga City Council's Property Department has evolved with varied results. At the time of the interview process, the existing cooperation was characterized as "on and off." In general, there had been several meetings between the representatives of the movement and the

Property Department, but the actual mechanism of cooperation was not established (INT_04, 03.04.2014; INT_01, 31.03.2014). It was attributed to different objectives, expectations, and understanding of the problem as well as trust issues (the latter will be discussed in more detail later in this chapter). During an informal communication with one of the involved parties at a later stage (approximately one year after the initial interviews), it was revealed that the relationship has improved and some form of cooperation has been found.

The network of private proprietors at the time of research was rather small – two proprietors had contacted the initiative to express their wish to cooperate. In contrast to the private proprietors, the cultural and social initiatives are many. In the case of these actor groups, the movement takes on a role of a mediator that brings together the proprietors and the interested cultural and social initiatives, and the cooperation is formalized with an agreement. There have been successful results of this process, e.g., a building in Maskavas forštate (Līksnas 26) has become a new cultural hub in Riga. Overall, the movement has plans to expand the work with private proprietors (find means to attract them and widen the circle of good examples) and to continue work with the existing initiatives (INT_04, 03.04.2014).

Another example of a creative initiative is “Lielās Talkas Pagalmu Sakopšanas kustība” that has been mentioned already when describing a network of actors associated with a local NGO in Maskavas forštate. Interestingly, the emergence of this initiative is similar to that of movement Free Riga. In this case, however, it was a network of several organizations that put the initiative in action as opposed to an informal group of people, but it was still developed around a specific idea. The initial idea came from the Union of Landscape Architects that took it to the organization responsible for European Capital of Culture Riga 2014 which then involved NGO “Pēdas LV” – an organization behind the national annual clean-up event. These three organizations then formed the core of the initiative and worked on attracting other actors that were necessary for carrying out the foreseen activities. Overall, all the other actors involved in the initiative slightly changed from one year to the other, but they can be summarized in several groups. First of all, each year they had sponsors that provided different support (e.g., with materials like plants). Second, they involved students of landscape architecture, architecture, and environmental design from different higher education institutions in Latvia and mentors (mostly practitioners among landscape architects). Finally, they cooperated with the residents that were involved in the practical implementation of the localized projects. Essentially, this extended network was mostly used to attract necessary resources (human resources, material resources) for the implementation of the localized projects (INT_11, 17.04.2014).

Additionally, it has to be pointed out that there was no official cooperation with Riga City Council or its institutions although most of the work was dedicated to improving the living environment in Riga by redesigning and renovating inner yards in different residential

quarters (INT_11, 17.04.2014). In fact, Riga municipality was carrying out similar work parallel to this particular initiative, but with a different focus and approach. It is a good illustration of how cooperation among different actors in the same context sometimes does not take place in Riga. The given reasons in the interviews were not very clear therefore there is not a straightforward explanation for this situation.

To summarize, the two examples of creative initiatives demonstrated that the actors in their networks are determined by the objectives of the initiative and can include a variety of organizations, institutions as well as individuals. Interestingly, the core organization of the creative initiatives is also formed of networked individuals or organizations that have come together due to a specific cause or interest. These initiatives are carrying out their activities throughout Riga and sometimes also beyond its geographical borders, but the outcomes are usually localized projects. In the case of movement Free Riga, the localized projects can be characterized as the transformation of abandoned buildings into cultural and social hubs. However, in the case of "Lielās Talkas Pagalmu Sakopšanas kustība," the activities result in improved quality of inner yards of residential quarters that are associated with the process of adaptation. In both cases, the networks largely function to gain access to the necessary resources for implementation of the intended activities which also explains the general differences in the involved actor groups.

In the previous examples, it has occasionally been referred to cooperation with Riga City Council's institutions. In some occasions, this cooperation has been characterized as good, but in others shows that there could be room for improvement. Overall, it was not possible to get a full picture of the network of actors that are linked to different Riga City Council's institutions (not to mention the understanding of the ties between all the actors in this network) which was also not the main focus of the empirical study. However, it was possible to gain sufficient information on specific institutions focusing on certain problems related to urban shrinkage in Riga that would allow getting insights into the network of actors formed around them. The information gained from the interviews and secondary data and information sources provided a comparatively comprehensive overview of the network of actors formed around the Board of Building Maintenance which is a municipal institution (unit) dealing with the problem of environment degrading buildings in Riga. It will be used here as an example.

The Board of Building Maintenance is an administrative body or unit that was created within the structure of Property Department in 2014. As already mentioned before, the main objective of the Board is to deal with the environment degrading buildings in Riga. Additionally, the Commission of Environment Degrading Buildings was created to make this process more transparent and objective (INT_01, 31.03.2014). The members of this Commission are representatives of various other municipal and also state institutions and include most of the main actors in the network of institutions formed around the Board of Building Maintenance. Among these, there are representatives of various divisions and

other units within Riga City Council's Property Department (which can be viewed as an internal network of actors), representatives of Riga City Construction Board, Riga City Council's Finance Department, Riga City Council's Administrative Inspection, all three Executive Directorates, municipal agency "Rīgas pilsētas arhitekta birojs" (Riga Architect Bureau), Riga Municipality Police, and two Councillors. Besides the different actors from municipality institutions and structures, there is also a representative of the State Inspection of Heritage Protection in the Commission.

The Board also cooperates with institutions that are not included in the Commission, e.g., center "Koka Rīga," State Joint Stock Company "State Real Estate" or State Fire and Rescue Service of Latvia. Those are institutions with whom it is possible to find an overlap in interests or functions to deal with the environment degrading buildings in Riga or with whom there is an agreement for information exchange (INT_01, 31.03.2014). It can also be assumed (although not expressed in the interviews) that there is some cooperation between the Property Department and the City Development Department in the context of environment degrading buildings as specific strategic actions on the subject can be found in strategic planning documents of the city.

When looking beyond the state and municipality institutions, the groups of actors or organizations that the board is cooperating with become considerably fewer. First of all, the Board's main target group for their activities are proprietors of environment degrading buildings (either individuals or organizations and institutions that own the buildings of interest at a particular moment in time). The relationship between the Board and the proprietors, however, cannot be characterized as a cooperation or partnership in all cases. More often than not, the Board (after the decision of the Commission) employs fines to motivate the proprietors to take care of the buildings in question or failing that eventually takes the specific case to court (just to illustrate of the possible course of action without describing the process in more detail). Those proprietors that are willing to comply with the demands set out by the Board and the Commission can avoid legal persecution and establish some form of cooperation with the institution (INT_01, 31.03.2014). However, overall, it would be more accurate to consider the proprietors as a target group than a component of the network.

Besides the proprietors, it has already been discussed that the Board has established some form of cooperation with movement Free Riga (a creative initiative). It has also been indicated before that the cooperation has not been very consistent or successful at the early stages of the partnership. After interviewing both sides, it can be concluded that there were several initial barriers for establishing lasting and working cooperation. One of them quite clearly was related to trust issues among both parties and differences in expectations. There had been instances of not delivering on promises from both sides which had damaged the trust and slowed down the process of forming an actual coopera-

tion (based on INT_01, 31.03.2014; INT_04, 03.04.2014). The situation was eventually resolved, but the impression was that some trust issues might still exist.

Other actor groups do not seem to be included in the network formed around the Board of Building Maintenance. It was expressed in the interviews that the institution, in general, is open to cooperation, for example, with the local NGOs, but neither side had sought contact before and during the time of the research (INT_01, 31.03.2014). It is also difficult to imagine the common ground for such cooperation, taking into account the specific focus of the Board and the limited options of the NGOs (except for information exchange). To sum up, the example of the Board of Building Maintenance shows a comparatively diverse network of municipal and state institutions (which can be viewed as formalized ties or form of cooperation), but have rather limited network involving other actors. It, however, does not need to be perceived as a general rule as in several earlier examples it was indicated that, for example, local NGOs cooperate with City Development Department. There have also been cases where cooperation with creative initiatives has been successful (e.g., project “Radi Rīgu!”) and resulting in implementable results (INT_17, 28.04.2014). At the same time, there has been an indication from the side of Riga City Council’s institutions that they prefer to cooperate with formalized organizations (e.g., NGOs; INT_03, 02.04.2014) and the study results suggest that having an agreement with the institution helps to direct the cooperation in the desired direction and achieve better results.

Besides these aspects related to cooperation of Riga City Council’s institutions with external actors, there have been opinions expressed in the interviews with various actors that there are problems with cooperation within the internal structure of municipality institutions. Overall, the references have been made towards the lack of cooperation and coordination between different departments as well as problems with establishing good working relationship with administrative staff in some of the institutions (e.g., INT_10, 17.04.2014). There have also been suggestions expressed in the interviews that there are hidden actors whose interests can have an impact on the development trends in Riga (e.g., INT_04, 03.04.2014), but these cannot be considered to be true or objective without additional research into the topic.

In conclusion, it has to be said that networks play an important role in ensuring the implementation of the intended activities regardless the type of organization or institution or the spatial scale of operation. Hence networks facilitate bringing about the resulting responses to urban shrinkage in Riga. There are some differences among the employed networks, but those are mostly attributed to the specific characteristics of the activities carried out by the actors, and not so much to the role of the networks in the process of implementing these activities. Based on the type of institution or organization, the formation of cooperation might require some time and building of mutual trust, and the formalization of a partnership in some cases helps to achieve that.

6.3 Resources

Another important source of resilience is linked to resources. It is clear that rarely any action in response to a disturbance can be implemented without resources. As a result, the resources that are available or immediately accessible to actors can determine their capacity to respond to a disturbance as well as the type of response they can implement. Additionally, the literature also suggests that not only available resources play a crucial role in responding to a disturbance, but also actors' ability or capacity to gain access to additional resources (latent or external). Hence the overall analysis of resources as a source of resilience to urban shrinkage is focused on both these aspects.

As there is a variety of different resources that can play a role in responding to a disturbance, the analysis of available resources is divided into several parts, and each part is focusing on a specific type of resources. Selection of these types was mostly based on the available information. For example, human and financial resources are important for implementation of the majority of identified actions based on the information obtained during the interviews. It was also possible to distinguish specific considerations related to material/built resources and some aspects linked to social and political resources. However, topics related to social and political resources have been described in other chapters (see Chapter 6.2 and 6.7); therefore it was deemed unnecessary to include them as separate analytical categories also in this chapter. As a result, the analysis of available (or lack of) resources is divided into human, financial, and material/built resources.

6.3.1 Human resources

Under the topic of leadership, it was illustrated that the presence of leaders and active agents in different organizations and institutions impacts the resilience to urban shrinkage. Besides the presence or absence of key individuals (that can be categorized as human labor in the context of human resources), it is also important to understand what other aspects of human resources play a role in facilitating resilience. The literature suggests that human resources refer to attributes of individuals – capacities, training, skills, knowledge,and so forth (Magis, 2010) which can impact their abilities to carry out different actions. Overall, it is not possible to assess all attributes of the key individuals due to lack of information; therefore the analysis will be focused on identifying those attributes that have been mentioned as important or necessary for carrying out specific actions in the interviews (besides leadership skills that have already been discussed in Chapter 6.1).

Before focusing on the specific attributes of the key individuals, it has to be clarified that lack of human resources (meaning lack of human labor) has been mentioned as an obstacle or barrier for implementation of actions by several organizations and institutions. In some cases, it was formulated as a lack of human resources with specific attributes, in others – a general lack of or limited availability of human labor. Interestingly, this opinion

was expressed by different actors – representatives of Riga City Council and its institutions, creative initiatives, and local NGOs.

In Riga municipality, there are several institutions whose representatives have mentioned problems that can be attributed to the insufficient availability of human resources or directly expressed that they lack human resources. For example, the number of people working on dealing with environment degrading buildings has been increased by establishing the Board of Building Maintenance within Riga City Council's Property Department. However, the Board still is unable to survey all properties that could be considered environment degrading buildings or identify all such properties in Riga as there are not enough human resources (INT_01, 31.03.2014). Another example could be the center "Koka Rīga" where there are only three people working on several tasks set out for this particular institution. It has been clearly expressed in one of the interviews that it is not a sufficient number of people. At the same time, it was also said that it is difficult to find new employees with the relevant skill set (INT_08, 14.04.2014).

In the case of creative initiatives and local NGOs, it was expressed in several interviews that the organization or initiative could benefit from new key individuals with specific skills, knowledge, and abilities or referred to limited human resources as a general problem. However, it has to be made clear that not all local NGOs are interested in simply increasing the number of their members – they are focusing on attracting active members or active agents that can benefit the organization (INT_05, 08.04.2014). Interestingly, it is possible also to see some similarities regarding attributes of the key individuals that are sought for in new members of different organizations. However, before moving on to the analysis of these attributes, it is possible to conclude from the information described up to now that there is limited availability of human labor (resources) on both spatial scales (city and district) which hinders responding to urban shrinkage or the existing situation in the city or district.

The analysis of necessary attributes of key individuals is focused mainly on two actor groups – creative initiatives and local NGOs as the topic was discussed during the interviews with representatives of these organizations. Overall, there are several basic skills that emerge as necessary attributes for people working in creative initiatives and local NGOs as well as additional skills and knowledge that can be viewed as an advantage for local NGOs or requirement for some creative initiatives. The basic skills include leadership (that has already been discussed before), organizational and management skills, communication skills, analytical skills as well as an understanding of administrative and bureaucratic procedures. These basic skills combined with the motivation to voluntarily work for the specific cause and the availability of time to engage in such work can be sufficient to accomplish a variety of activities carried out by the local NGOs, e.g., in response to degradation of the urban environment. Among additional attributes, there can be a variety of skills and knowledge, e.g., specific knowledge of environmental issues,

professional skills and knowledge of architecture or landscape architecture, knowledge of legal matters and understanding of the law, expertise in public relations, interest in culture and cultural events, and others (e.g., INT_05, 08.04.2014 or INT_17, 28.04.2014). These additional attributes often determine the scope of issues an organization can deal with.

Interestingly, a need for a person with skills in public relations was expressed most often by representatives of both creative initiatives and local NGOs. Also, a person with knowledge of the law and legal matters was mentioned as a desired addition to the existing team of one of the local NGOs (legal capacity was also discussed as an obstacle for the work of local NGOs in one of Riga district forums; Sarkandaugavas attīstības biedrība, 2014). It adds to the knowledge of deficiencies in the context of human resources for creative initiatives and local NGOs in Riga.

Besides the already mentioned skills, there is another important attribute that is closely related to the capacity to gain access to resources and plays a significant role for local NGOs – the ability to prepare project applications successfully. Normally, there is one person in a local NGO with such skills, and this is a key individual whose responsibility is to gain access to funding for different activities. As can be understood from several interviews with representatives of the local NGOs – without a person with such ability the organization would have very limited opportunities to organize any local activities which would seriously hinder their ability to impact the existing situation in the district (INT_02, 01.04.2014; INT_05, 08.04.2014; INT_06, 09.04.2014).

The set of available attributes is not the only aspect that needs to be analyzed. It is also important how these attributes are distributed across key individuals within the organization. It is something that varies from case to case. For example, there are 4 till 5 active agents (including a leader) in the local NGO of Sarkandaugava and each has a specific role in the organization. One person is focusing on environmental issues in the district and carries out analytical work in this context, one member is better equipped for communication with the residents and conveying relevant information to them, another person has expertise in landscape architecture which is a considerable support for any improvements related to the physical environment in the district, one more person is focusing on cultural events and, finally, another member is responsible for fundraising and official communication with the media (INT_05, 08.04.2014). Overall, Sarkandaugava is a comparatively good example where several people are sharing different responsibilities unlike in Maskavas forštate and Avoti/Grīziņkalns districts where the majority of the responsibilities are concentrated around one person. At the same time, it was expressed in one of the interviews that Sarkandaugava's NGO could benefit from couple more active members in their organization (with expertise in public relations and law; INT_05, 08.04.2014).

Another example could be Maskavas forštate where one person has taken on the majority of the responsibilities, especially fundraising and organization of all kinds of local

activities. However, the local NGO includes several smaller NGOs that are formed for specific residential buildings or building blocks and are led by other active agents. These active agents function as communicators between the residents and the larger NGO. It results in a comparatively higher activity of residents (consistently high participation of residents in different activities from all age groups; INT_06, 09.04.2014).

In the case of Maskavas forštate, it is also not possible to talk about key individuals with specific additional skills or attributes. However, the organization has managed to compensate for that in some cases through the successful attraction of external human resources with specific expertise when needed. The example of that would be improvements in several inner yards of the residential quarters that have resulted from successful application process in the contest organized by the creative initiative "Lielās Talkas Pagalmu Sakopšanas kustība." It provided the residents not only with necessary financial and material resources for implementation of such venture but also with consultations with existing and future professionals in landscape architecture and architecture (INT_06, 09.04.2014; INT_11, 17.04.2014). In this particular case, the ability to successfully attract these additional resources can be attributed not only to the person writing the project applications, but also the active agents able to organize support of the residents to comply with the main requirements of the contest.

Regardless the number of people sharing different responsibilities within a local NGO, they are all subjected to one very important risk – loss of key individuals. In those organizations where the majority of the responsibilities (hence also skills) belong to one person, this risk is relatively higher. If this particular person leaves or becomes unable to perform certain tasks for whatever reason, it is quite possible that the local activities in that district will stop. In districts where the responsibilities or roles are shared among several people, loss of one key individual might lead to a temporary reduction in some activities. The situation might be more difficult if that key individual is the leader or fundraiser or both. That could result in cessation of local activities in general. In this light, the local NGOs in the study areas and some creative initiatives can be seen as being in a comparatively vulnerable state regarding their human resources. There are identifiable deficiencies in their present state, but there are also significant risks in the future if the situation remains unchanged.

To summarize, different organizations and institutions in Riga are rather conscious about the limited availability of the human resources which impact their abilities to respond to the emerging challenges in the city. The activities carried out by creative initiatives, or local NGOs are restricted to the available skills and knowledge already existing within the organization or the ability of key individuals to involve other professionals in helping to deal with specific issues. Additionally, the ability to gain access to other resources (e.g., funding) emerges as possibly the most crucial attribute of the key individuals that largely determines whether the organization can implement any activities at all. Taking into ac-

count that most of the activities carried out by the local NGOs and creative initiatives lead to adaptation on the district and also city level, it is possible to conclude that availability of human resources with specific skill sets is another precondition that facilitates adaptation as a response to urban shrinkage. Unfortunately, the available information did not allow to draw a similar conclusion in the context of transformation.

6.3.2 Financial resources

Financial resources refer to available funding for implementation of actions. As different actors deal with different sources and quantities of financial resources, it partially determines the scope and character of their actions also in response to urban shrinkage. Even without proper analysis of necessary financial resources for implementation of different actions, it is quite clear that majority of the transformative actions require large amounts of financial resources whereas the locally based adaptive actions can be implemented with very little or no financial resources.

Not only actions but also actors can be divided based on the available financial resources. On the one hand, there are actors that essentially have no financial resources of their own (e.g., creative initiatives and local NGOs) and rely mostly on their capacity to attract external funds. On the other hand, there are actors like Riga City Council that has its municipal budget and also other opportunities to attract external funding (e.g., through EU funding instruments). Developers can similarly be included in the latter group of actors as their actions require a lot of financial resources that are provided from their funds or other sources (e.g., investors). Based on the empirical study, it becomes quite evident (although not directly stated in the interviews) that for those actors that have fairly large amount of financial resources at their disposal, funding is not an obstacle for responding to urban shrinkage (through transformation or adaptation). It is, however, an important issue for other actors (creative initiatives, local NGOs, and also private proprietors). The interviews reveal that a lack of or limited availability of financial resources impacts the activities these actors can carry out or their ability to respond to undesirable changes in general (the latter is especially the case for private proprietors).

The situation in the case of local NGOs is quite similar in all local organizations from the study areas as the same problems and issues were repeated in several interviews. Essentially, the local NGOs have no financial resources – some of them charge a symbolic annual membership fee which amounts to very little money and some of them do not, but overall there is no budget to fund the work of these organizations. The existence of the local NGOs is based on voluntary work, and the financial resources can be obtained only for specific activities through several funding instruments. The overall budgets of these funding instruments are not big, and the competition is rather fierce which means that the capacity to gain access to these external financial resources is largely dependent on the skills of the key individuals responsible for fundraising. In general, the interviewees referred to several funding opportunities, including sponsors (e.g., local private

companies), European Capital of Culture Riga 2014, and project contests organized by Riga City Council's Education, Culture and Sports Department, State Culture Capital Foundation, Latvian Environmental Protection Fund, and Society Integration Foundation. In some instances, the interviewees also mentioned European projects without specifying the funding instrument (based on INT_02, 01.04.2014; INT_05, 08.04.2014; INT_06, 09.04.2014). It also has to be pointed out that projects funded by European Capital of Culture Riga 2014 will cease to exist or will need to find new sources of funding after 2014 which could result in reduced opportunities for the local NGOs to access funding for their activities.

Besides the already limited opportunities for the local NGOs to gain funding for their activities, there are further constraints associated with these type of funding mechanisms that are considered a serious obstacle to the work of local organizations. As already mentioned before, the funding can be obtained only for specific activities which already puts some limitations on the local NGOs regarding the activities they can carry out in their district or for the residents. There are also constraints regarding costs that can be reimbursed through these funding instruments. In some cases, it is not allowed to put staff costs of the organizations in project budget which means that all organizational and administrative work needs to be carried out on a voluntary basis. In other cases, the NGOs are required to ensure co-funding (it can be from 5-25% of the project budget) which normally is done through staff costs once more leading to the situation that administrative and organizational work is done on a voluntary basis as the organizations do not have financial resources to pay actual salaries. The representatives of the local NGOs refer to a rather absurd situation when staff costs can be reimbursed for hiring an external person working on the project or activity as long as the person is not a member of the specific NGO implementing the activity. Overall, these complications impact the capacity of an NGO to undertake numerous projects at the same time. In the interviews, it was expressed that project management is often the most complicated part of the project – it becomes a full-time job for the project manager in some project stages. Moreover, there is normally only one person in the local NGO responsible or able to undertake the role of a project manager (similarly to the fundraising), but this person is not working full-time for the NGO due to lack of funding (based on INT_02, 01.04.2014; INT_05, 08.04.2014; INT_06, 09.04.2014). As a result, it creates a situation where the local NGO cannot undertake too many projects due to the limited managerial capacity of the organization.

The situation with creative initiatives changes from one case to the other, but generally, it is rather similar to that of the local NGOs. For example, such initiatives as "Lielās Talkas Pagalmu Sakopšanas kustība," "Pagalmu renesanse," and project "Labas vietas TALKA" are supported and implemented in the framework of European Capital of Culture Riga 2014. As this support ended in 2014, the further existence of these initiatives at the time

of the study was unknown as they require financial resources to continue carrying out their activities. Initiative “Lielās Talkas Pagalmu Sakopšanas kustība” is also supported by several sponsors, but they provide their support in the form of material resources (e.g., plants) or discounts, but do not ensure the basic budget for their activities. Interestingly, the people or experts involved in these projects or initiatives are also working on a voluntary basis or for a symbolic fee for their services (INT_11, 17.04.2014). Overall, the loss of funding for these initiatives will lead to loss of another opportunity to improve degraded or unused public spaces (e.g., how it has been done in Maskavas forštate and Sarkandaugava).

A slightly different example is project “Radi Rīgu!”. It was organized with the support of EU funding (European Social Fund) and planned for a specific period. The project is officially over, but some of the more successful cases are on the agenda of Riga municipality for implementation. Essentially, it is now a matter for the relevant officials to find and attract funding from one of the EU funding instruments or Riga municipality budget to ensure the realization of the ideas and concepts proposed through project “Radi Rīgu!” (INT_14, 25.04.2014; INT_17, 28.04.2014)

Finally, there are creative initiatives like movement Free Riga that is not linked to a specific source of funding and exists due to the enthusiasm and voluntary work of creative youth and other actors.

Financial resources also impact the capacity of private proprietors to deal with abandonment and degradation of their properties (especially buildings). Although the interviewees did not include representatives of this particular actor group, several experts that deal with private proprietors said that lack of finances creates a situation when building owners are unable to maintain or renovate them. The situation is especially difficult for those who own historical buildings as the regulations require them to be renovated while maintaining their historical appearance and value which usually is very costly. In some cases, private proprietors have filed for insolvency or are attempting to conserve the buildings till it is possible to find adequate funding for renovation. Interestingly, there are also no known funding instruments that could provide support for private owners in this situation (based on INT_01, 31.03.2014; INT_08, 14.04.2014; INT_18, 29.04.2014).

In conclusion, it has to be emphasized that financial resources are important for both adaptation and transformation to take place in response to urban shrinkage. The main differences are in the necessary amounts of financial resources that could lead to a specific response on the district level. The situation in Riga is such that for some actor groups the financial resources are lacking, and the available funding instruments limit the uses of these resources. Moreover, such actors as private proprietors of degraded buildings are often in the most difficult position lacking both financial resources for renovation or funding instruments that would provide necessary support. It creates a situation where decline should also be considered as one of the possible responses to urban shrinkage due to

lack of financial resources, especially in those urban areas where the concentration of the degraded buildings is the highest.

6.3.3 Material/built resources

Material or built resources refer to physical assets and built infrastructure. It is a very broad category of resources that can include almost any type of tangible items, but it is not an objective of this study to assess or identify all of them. The interview results refer only to few aspects of material/built resources, e.g., built infrastructure in the city or more specific things like premises for cultural or community events. These different aspects are related to different processes or responses to urban shrinkage in Riga. They are also linked to different actor groups and their activities.

First of all, there is a comparatively distinguishable connection between the existing built infrastructure and the potential for redevelopment. Overall, it can be hypothesized that urban areas where there is a higher concentration of brownfield sites and abandoned, degraded building stock also has a higher potential for redevelopment through transformation. However, there are many more factors that influence this potential (e.g., location, building stock, and others).

In this context, it is possible to discuss the specific case of Ķīpsala where redevelopment of old building stock was facilitated and implemented by developers. Essentially, the idea for transforming this part of Ķīpsala district into exclusive residential neighborhood emerged from its specific location (on the island, with access to water and view on Old Town). However, the character of the neighborhood was largely defined by the existing building stock. Except for the row houses (detached family houses) that were built on vacant land, the residential buildings in historical part of the district have been built based on existing built infrastructure – old wooden buildings, old Gypsum factory as well as old foundations that outlined only the structure of the previous building. There are also specific cases when old wooden buildings have been moved from other places in Riga to this particular district (INT_07, 11.04.2014). Overall, this indicates that the existing built infrastructure plays a role in facilitating such processes as transformation, but only if there are other favorable factors at play (like location) that can create an interest among developers.

This notion is further supported by the situation in other Riga districts (e.g., Avoti and Maskavas forštate) where there is also a high number of historic wooden buildings (many in poor condition and need of redevelopment), but a similar process to that found in Ķīpsala has not taken root. For example, there was a pilot project in Avoti (in Mūrnieku Street) between 2003 and 2007 initiated by Riga City Council which was aimed at improving and maintaining the existing building stock (comprised of comparatively well preserved wooden buildings from the 19th century). The project was also aimed at the involvement of residents and private proprietors in the process. Overall, the improve-

ments of the existing built infrastructure involved changing the street paving as well as utilities and communications networks. Moreover, several of the historical buildings underwent restoration of authentic facades and improvements of the quality of public spaces (inner yards and squares) (Ušča, 2013). Unfortunately, the improvements in one street in Avoti did not launch further redevelopment projects in the district (Avoti still has one of the highest concentration of environment degrading buildings in Riga). At a later stage, another project aimed to create the center "Koka Rīga" (also led by Riga City Council) was realized and involved renovation of the old historic building stock in a location near Mūrnieku Street. However, the reality is such that besides these localized projects initiated by Riga municipality, Avoti has not become a district attractive to developers. The interviews reveal two reasons for that – location and costs for restoration of such historical building stock. It is clear that the proprietors of historical buildings in Avoti do not have the means to restore these buildings themselves, but the location is not exclusive enough to attract developers to the area. The same reasons also apply to the case of Maskavas forštate (INT_08, 14.04.2014; INT_18, 29.04.2014).

Essentially, this problem could be solved with a purposeful municipal policy to concentrate new development in these areas through the redevelopment of degraded building stock. In reality, the policy of Riga City Council described in Riga Sustainable Development Strategy 2030 (see Chapter 5.1.2) is to prioritize Skanste (largely undeveloped territory near the core of the city) for new development projects which put Avoti and Maskavas forštate at even greater disadvantage. It shows the contradictions between the processes happening in the city and the responses from the municipality in dealing with it.

Besides the developers, abandoned and unused building stock is also of interest to creative initiatives. Their approach is considerably different from that of developers. In brief, instead of carrying out major renovation or restoration works, initiative chooses abandoned buildings in a comparatively good technical condition where only minor or gradual improvements are needed and attracts users (cultural and social initiatives or projects) to the specific building. In that way, the building regains some function (and eventually can become a cultural hub in the vicinity) as well as is taken care of in the absence of other users which stops or slows the process of degradation. In some cases, the proprietors ask to carry out some maintenance work in return for free usage of their house. Overall, it is seen as a win-win situation for those proprietors who are unable to fund renovation at the given point in time and those cultural and social initiatives that cannot afford to rent space for their activities. The process of reviving an abandoned building is carried out based on an agreement; therefore no preference is given to location or other factors (the main precondition is the proprietors' willingness to allow the use of the property; INT_04, 03.04.2014). Unfortunately, there were limited examples of such use of buildings in Riga at the time of the study (the one that has been already mentioned before is Līksnas 26 in Maskavas forštate), but the movement is expanding its activities. Moreover, although it can be said that Free Riga is transforming some buildings in the city through major

changes in their functional use, the overall impact (on the district or city level) is that of adaptation

The above-described examples are focused on built infrastructure, but the material/built resources are a much broader category and also include other tangible resources. In the interviews, it was quite often mentioned that local NGOs lack space for their activities (which in some occasions can be seen as a factor limiting their work). The situation differs from one study area to the next, but in general, it was admitted by all interviewed representatives of the local NGOs that there are advantages to having locally based space for the organization. Some NGOs have found solutions by creating such space for themselves using own resources (in Maskavas forštate) or attracting project funding (in Bolderāja). Others use local partners to gain access to space for different activities, e.g., in Sarkandaugava, Ķīpsala, and Avoti/Grīziņkalns (based on INT_02, 01.04.2014; INT_05, 08.04.2014; INT_06, 09.04.2014; INT_07, 11.04.2014). Essentially, this is a similar issue to that of financial resources for local NGOs – it is possible to gain access to some resources for a specific activity, but there is a lack of resources for administrative and organizational work for the same activities or general day to day work.

To sum up, built resources (specifically unused and degraded building stock in exclusive locations) can be a precondition for transformative processes in the city. However, it also requires considerable financial resources for this process to make an impact on the district level. Alternatively, unused buildings can provide the basis for localized projects which shows the overall opportunities provided by the built resources in a shrinking city. Other types of material/built resources do not have a crucial role in ensuring implementation of different activities as long as the actors can gain access to the necessary resources through their network of partners or find alternative solutions.

6.4 Learning

As has been demonstrated in the theoretical part of this work, learning has been suggested as a source of resilience across a number of resilience discourses. However, there is a lack of one definition of learning due to a variety of notions and understandings associated with it. To include a comparatively wide range of these notions but exclude those that might result in overlap with other sources of resilience, learning has been defined here as formal and informal[19] learning and knowledge acquisition as well as experimentation and innovation. The definition corresponds with those aspects of learning that have been identified during the empirical study.

[19] The difference between formal and informal learning in this study is based on the educational setting and process. The learning process that takes place in an educational institution following a specific curriculum and predetermined learning objectives is considered formal learning; any other learning experiences are classified as informal (based on Malcolm et al., 2003)

To structure the results and to be able to demonstrate some differences related to learning on different spatial scales and among different actors, the analysis has been based on main actor groups implementing different actions in Riga and the study areas – Riga municipality (and its institutions), local NGOs, creative initiatives, and developers.

Riga municipality

Riga municipality and its institutions are responsible for a variety of strategic actions and activities in response to urban shrinkage leading to adaptation or mitigation on the city level. In the case of both strategic actions and activities, it is possible to identify some processes of learning. The outcomes or impact of these learning processes, however, differ among municipal institutions. A couple examples are described below to illustrate the main differences.

Firstly, it has to be said that learning from experience was mentioned as an ongoing process in spatial planning in Riga during the interviews (INT_12, 23.04.2014). Additionally, learning from international experience can also be identified as planning in Latvia, in general, is a new field and transfer of knowledge and experience from other countries and cities has been one of the means for setting up planning system and practice in the country (not only in Riga; INT_12, 23.04.2014; INT_16, 26.04.2014). Overall, it has been a general process of learning from experience and learning by doing which is part of informal learning that has led to a current set of planning documents and strategic actions in Riga. It has already been discussed when analyzing strategic actions in response to urban shrinkage that there is a lack of consistency among different actions expressed in the planning documents. It indicates that whatever learning process has taken place for preparation of these documents, there is still some lack of understanding of ways to deal with the existing situation in Riga. The interviews revealed that despite the willingness to learn from international experience (considerable resources have been invested into organizing workshops, seminars, and so forth on different aspects of urban planning), it has rarely been successfully applied in the actual planning process in Riga. It can be viewed as an indication of lack of experience or competence in applying international experience or knowledge to local setting or lack of purposeful learning, or both. Either way, the existing situation suggests that there is a need to increase the capacity of learning or incorporate learning in a more comprehensive and targeted way in municipality's work.

Municipal institutions that are dealing with specific aspects of urban shrinkage, e.g., degraded and abandoned buildings, allow assessing the role of learning more concretely. In this context, it is interesting to look at the creation and work of Riga City Council's Property Department's Board of Building Management that is dealing with environment degrading buildings in Riga. Essentially, the Board was created only in 2014 as a result of acknowledgment that the problem of environment degrading buildings in the city is increasing and that the existing number of officials is insufficient to deal with the issue effectively. There have been officials dealing with this problem in the municipality for years and cur-

rent instruments and mechanisms applied in the everyday work of the Board is at least partial result of their work experience accumulated over time. For example, municipality obtained rights to apply the specific fee to motivate proprietors to maintain their buildings in 2012. Then, the fee could not be applied to buildings that have a historical status which hindered the work considerably as many of the environment degrading buildings have some historical value. The officials proposed relevant amendments in the legislation and the fee can also be applied to the building with historical status since 2014. There are other proposals being prepared by the Board that should improve the speed and effectiveness of their work in future which suggest that the officials within this particular municipality institution are reflecting on their work experience and implementing necessary changes to improve it (learning from experience). Moreover, other municipalities in Latvia have expressed interest and willingness to learn from the work experience of their colleagues in Riga which indicates that the Board has achieved a certain level of competence (INT_01, 31.03.2014).

Local NGOs

Learning has played a major role for local NGOs and residents within the selected study areas. It has mostly been learning from experience and informal learning that has contributed to the creation of local NGOs, implementation of different activities as well as formation and strengthening of local communities. However, before attempting to draw some general conclusions on the topic, it is useful to look at different dimensions and impacts of learning in specific localities.

As already mentioned, learning has facilitated the emergence of local NGOs. In this context, it is interesting to look at the case of Maskavas forštate where the impact of informal learning can be identified. There are two important learning instances that have eventually led to the establishment of local NGO in Maskavas forštate and ensured that the key individuals of the NGO have the right abilities and competence to manage such organization. The first instance has been participation in an international project where the key individuals from Maskavas forštate received an opportunity to attend lectures and seminars on work of NGOs (including legal, psychological and informative aspects) and participate in conferences and discussions in Finland and Sweden to acquire additional experience in dealing with topics of interest from their local setting. The project also gave an understanding that local people can make a difference which was an important push for further activities. The second instance was residents' forum "Rīga dimd" where the key individuals from Maskavas forštate had opportunities to gain additional experience through the exchange of knowledge and know-how with representatives of Riga municipality and other NGOs (INT_06, 09.04.2014).

Learning plays an important role also in facilitating implementation of different activities by local NGOs (including those that can be viewed as responses to urban shrinkage).

This occurs in a couple of ways. First, the representatives of local NGOs can acquire ideas and information on what activities they could be able to implement and how through the exchange of knowledge and experience among different organizations. Second, the representatives of local NGOs can learn how to access necessary resources (e.g., funding) in order to be able to implement different activities in specific seminars (based on INT_02, 01.04.2014; INT_05, 08.04.2014; INT_06, 09.04.2014). Both are equally important and rather straightforward in ensuring that local NGOs in Riga can carry out the activities they are known for (this applies to Maskavas forštate, Sarkandaugava, Bolderāja, and also Avoti). Moreover, it is interesting to observe that the initiative to organize events for the exchange of knowledge and experience has been partially transferred from Riga municipality and its institutions to the local NGOs, e.g., one such event was organized by the local NGO in Sarkandaugava in May 2014. It allows concluding that local NGOs are appreciating the opportunities for exchange of experience and can learn from each other. Unfortunately, it is not possible to assess the impact of this learning on the activities that are implemented by the local NGOs as they depend on many other factors. However, even if the representatives of local NGOs gain additional or further motivation for their work in the district, it is already a significant contribution to the resilience of these areas.

A slightly different form of learning is resulting from the activities of the local NGOs. Essentially, any locally based activity (whether it would be a cultural event or cleaning up of the local public spaces) is contributing to building and strengthening the local community as well as teaching the residents that some things can be changed or impacted on a local level. This realization can lead to a reduction of indifference towards the processes that are occurring in their district and greater inclination to facilitate desirable changes (even if it is only through participation in a local bee or an expression of an opinion on a local development project). Undeniably, it is a slow process and can occur in different degrees in different districts (e.g., local NGO in Maskavas forštate is proud to have a high level of resident involvement in local activities whereas it changes from one activity to the next in Sarkandaugava). Nevertheless, it is possibly the most important learning process that is being facilitated by local NGOs, and that can be related to resilience to urban shrinkage (or any other type of disturbance) in more than one way.

Finally, it is also important to mention that learning themselves and educating residents (also through the provision of opportunities to gain new skills) is an objective or task set out by several NGOs from the study areas (Maskavas forštate, Sarkandaugava, Bolderāja, and also Avoti/Grīziņkalns). It allows hypothesizing that by making learning as one of their strategic actions, local NGOs have possibly been able to incorporate it more consistently as part of their activities which in return has had an impact on the responses to urban shrinkage locally.

Creative initiatives

Creative initiatives in the context of urban shrinkage in Riga are directing their activities towards dealing with the degradation of the built environment in the city (e.g., abandoned buildings, public spaces, and so forth). At the core of most of these initiatives is some form of innovation as they try to approach the problem of their interest in a way that differs from the activities carried out by other actors in the same context. Moreover, there is quite clear and continuous pattern of learning from their own experience as well as some instances of learning from international practice (both are aspects of informal learning) leading to improvements in their work with time.

Possibly the best example of innovation or experimentation is related to the format of activities carried out by the majority of the creative initiatives. Some of them use brainstorming or some form of idea generation for improving existing public spaces, e.g., initiative “Lielās Talkas Pagalmu Sakopšanas kustība.” It is using the creative capacity of the students (young architects, landscape architects, and spatial planners) in cooperation with the residents to re-create inner yards of residential quarters (sometimes completely changing their image). Another such project is “Labas vietas TALKA” that is using ideas from the residents to reinvent local public spaces (an example of a square in Sarkandaugava). These type of activities are normally supervised or finalized with the help of professionals, but the stage of idea generation is what defines the outcome (based on INT_05, 08.04.2014; INT_11, 17.04.2014).

Some form of experimentation in managing different creative initiatives also overlaps with learning from the experience. For example, movement Free Riga (which in itself was something new and innovative) started as a social campaign whose success prompted a group of people interested in the problem of abandoned buildings to continue working in this direction. The early stages of the initiative can be characterized as rather chaotic and only with time came an understanding of how the planned activities can be implemented. It was a process of experimentation and learning from the results of these experiments – some things worked, and some things did not. Additional inputs for understanding how the initiative could work also came from the exchange of know-how with international partners (in Germany and Poland; INT_04, 03.04.2014).

A similar example is the initiative “Lielās Talkas Pagalmu Sakopšanas kustība.” It started with a pilot project to test the idea and developed into a contest for the residents to ensure their involvement in the process. The format of the contest has also slightly changed from one year to the next due to a variety of factors (availability of partners, sponsors, resources, and so forth), but also due to learning from the experience of previous years (INT_11, 17.04.2014). Overall, finding out what works and what does not is already embedded in the work of the creative initiatives as they rarely use known ideas or work patterns as a basis for their activities.

Additionally, it cannot be ignored that activities carried out by different creative initiatives facilitate learning of other actors, specifically the residents. As local NGOs often cooperate or use opportunities provided by the creative initiatives to their benefit, the creative initiatives contribute to building understanding among the residents that they have the capacity to change things as already discussed before. This educational role of creative initiatives has also manifested in other ways, e.g., project "Radi Rīgu!" was focusing on educating professionals through master classes on collaborative planning. It not only brought benefits to specific areas of Riga that were selected as cases for the project but also contributed to raising the competence of project participants (INT_17, 28.04.2014).

Developers

In the case of developers, it is possible to refer only to specific development projects implemented in Ķīpsala. In this context, learning manifests itself in the form of innovation. The developers behind the transformation of the old building stock in Ķīpsala devised an original redevelopment scheme – they used old external structures of the buildings and introduced modern interior with all necessary commodities of everyday life. The idea was also to use handwork and handcrafted elements whenever possible to transform the run-down buildings in Ķīpsala into an exclusive product. This process of innovation also involves a considerable amount of research to be able to maintain the authenticity of old structures. Undeniably, the developers have also learned from their experience with each complete development project (INT_07, 11.04.2014). It suggests a link between processes of innovation and experimentation and learning from the experience or informal learning.

To summarize the different learning experiences described above, it has to be said that learning has factored in facilitating responses to urban shrinkage in Riga across different spatial scales and actor groups. All of the involved actor groups learn from their experiences in dealing with the emerging challenges in the city to improve the work they are doing. Additionally, innovation and experimentation have played a role for several actor groups, especially in cases where their activities lead to transformation (either very locally, e.g., on building level or on the district level). At the same time, it has to be emphasized that possibly the most important learning process is related to growing understanding of the general society (residents) that they have the capacity to make an impact on the existing situation (if only locally) through their personal contribution. Finally, it is interesting to observe that all the learning experiences can be in general classified as an informal learning which indicates that formalized learning has not been of importance when responding to emerging challenges.

6.5 People-place connection

The people-place connection has been discussed in the context of community resilience by Norris et al. (2008), Ross et al. (2010) and Amundsen (2012). It is defined as a bond

to a particular geographical space or area (Perkins et al., 2002, p. 41). It is also seen as a necessary precondition for motivating active agents (Amundsen, 2012) or for inducing residents to act (Norris et al., 2008, p. 139; Perkins et al., 2002, p. 41) which suggests that people-place connection is a source of resilience.

The analysis of people-place connection as a source of resilience to urban shrinkage has mostly been done on the district level for all five study areas due to the availability of data and information. However, the topic of people-place connection or possible lack of it has been referred to in an overall discussion on processes in Riga in one of the interviews. It does not provide enough basis to draw justified conclusions but allows to illustrate potential differences between the city and local level.

Firstly, it has been mentioned in one of the interviews that “people (residents) do not love Riga” (INT_03, 02.04.2014). They can live in Riga for generations, but identify themselves with their place of origin. It manifests as an unwillingness to declare their place of residence in Riga which creates financial losses to the municipality. As to the reasons behind this type of trend, it has been suggested that Riga is possibly too big of a place to identify with for people from rural parts of Latvia (INT_03, 02.04.2014). Nowadays, an alternative could be the identification with districts. If Riga is too big, then it is possible to facilitate something called ‘local patriotism’ through districts (INT_03, 02.04.2014). Although not defined, the idea of local patriotism is close to that of people-place connection.

When looking more specifically at the five study areas or districts, the secondary data suggests that there are three districts where a people-place connection could be characterized as very strong or strong – in Sarkandaugava, Bolderāja, and Ķīpsala. Based on residents’ surveys (SIA "Aptauju Centrs" & SIA "Projektu un kvalitātes vadība," 2013), 100% of respondents from Bolderāja said that they live in Bolderāja when asked an open-ended question to name their district of residence. The answer rate for respondents from Sarkandaugava was 99% and from Ķīpsala – 98%. Overall, it is not possible to deduct the level of people-place connection from this data, but it shows that the residents of these three districts are identifying themselves with the specific geographical area within Riga which is one aspect of people-place connection.

Based on the interviews and other sources of information, it is possible to distinguish other aspects of people-place connection that are identifiable in these three districts. For example, the local NGO in Sarkandaugava has defined increase of local patriotism in the district as one of their tasks. It is achieved by organizing and doing things locally. It was also pointed out in the interviews that it is important for active agents to be locals (not all, but the majority) – they live there, they see all the things that need to be improved every day, and therefore they are motivated to do something about it. It was also admitted that in the case of changing the place of residence (e.g., not living in Sarkandaugava any-

more), the connection with place could be lost and the motivation to work for the district with it (INT_05, 08.04.2014).

The active work of the local NGO in Bolderāja allows to contemplate that active agents there are similarly motivated, but this statement cannot be supported with additional data. However, a different aspect emerges from the available secondary data. The residents of Bolderāja do not really see themselves as living in Riga (they say that they are going to Riga whenever they are going to the city center; SIA "Aptauju Centrs" & SIA "Projektu un kvalitātes vadība" (2013)). It allows considering that specific geographical location combined with historical identity of the area is also contributing to people-place connection or at least identification with specific place.

Ķīpsala can also be viewed as having a specific geographical location (it is an island in the river Daugava although located much closer to the city center than Bolderāja) and historical identity contributing to its residents' ability to identify themselves with the district. However, since part of Ķīpsala's building stock has been transformed into exclusive residential properties, people-place connection is also defined by status or prestige of living there. People are choosing to live in Ķīpsala, and it is a clear sign of a certain income level if they do so. The community in Ķīpsala can be characterized as internationally mixed but united by an equal level of income and place of residence (INT_07, 11.04.2014). However, it has to be taken into account that not the whole area of Ķīpsala has the same character or function; therefore this factor impacting people-place connection cannot be applied to the whole district.

In contrast to previously discussed three study areas, it is interesting to look at Avoti district where residents' identification with the place is not so pronounced. According to residents' survey (SIA "Aptauju Centrs" & SIA "Projektu un kvalitātes vadība," 2013), only 3.7% of respondents indicated that they live in Avoti (60.2% mentioned that they live in the city center and 8.5% - that they live in Grīziņkalns). It can partially be explained by the lack of physical borders between Avoti and the city center or Grīziņkalns districts, the character of the built environment that is very similar to the city center and the lack of historical identity (although Avoti has been a statistical region in the past). Moreover, it is surrounded by districts that have much stronger identities which can hinder an emergence of Avoti own identity. Also, Avoti is the only one of the five study areas that has no local NGO (Grīziņkalna NGO carries out activities partially in its territory, but it is not Avoti NGO) and only a few active agents that are focused on specific activities. Overall, it allows assuming that the lack of identification with the place as one aspect of people-place connection could be contributing to the lack of more active agents, a leader or an NGO. It, in return, creates a situation when fewer activities to improve the existing situation in Avoti are being implemented.

At the same time, it needs to be taken into account that Avoti is also a district in Riga where people choose to live in a certain period of their lives. Those are mostly young

people studying in the university or starting their careers, and they tend to change their places of residence quite often. It means that they are unlikely to form a bond with the specific place if they do not intend to stay and live there. Either way, the outcome is the same – the lack of connection with the place results in the lack of motivation to do something about the existing situation in Avoti.

Finally, the residents of Maskavas forštate demonstrate an average level of identification with the place according to the survey (SIA "Aptauju Centrs" & SIA "Projektu un kvalitātes vadība," 2013). Overall, there are 46.1% of respondents that indicated Maskavas forštate as the district they are living in and another 17.9% of respondents that gave a slightly different name (Maskavas priekšpilsēta/rajons) for the district of their residence. However, taking into account the similarities in the given district names by both groups of respondents, it can be assumed that 64% of the respondents identify themselves with Maskavas forštate. It might not be very surprising considering that Maskavas forštate is a rather large and fragmented district.

The interviews reveal that the residents of Maskavas forštate feel connected to their district at least in one part of the study area (where activities carried out by the local NGO are concentrated). It was said in one of the interviews that people are starting to understand that they belong to this district, they understand that they are living here due to the activities carried out in the district. The example that was given on how this understanding manifests itself is people's unwillingness to change their place of residence (to another Riga district) – even when changing apartments, current residents are trying to stay within Maskavas forštate (INT_06, 09.04.2014). Admittedly, this can be related not only to people-place connection but also to social ties (staying close to family or within local community). Nevertheless, a rather strong opinion was expressed that if people are choosing to stay in the district, they must like it here and must be satisfied with the living situation (INT_06, 09.04.2014) – aspects related more to place than community.

Additionally, it becomes rather clear that there are interlinks between people-place connection and local activities in the case of Maskavas forštate that are not quite so simple. It has been expressed that local activities facilitate people-place connection for residents (INT_06, 09.04.2014), but these activities would not have taken place without some initial connection between the active agents or a leader and the specific district. Moreover, the people-place connection can have an impact on the participation level in the activities. For example, a local NGO or active agents can organize an activity for dealing with a specific problem in the district, but it does not mean that people will participate – they need to be able to associate themselves with the place and the existing problem to be motivated to get involved. In the case of Maskavas forštate, it was said that people were already dissatisfied and frustrated with the existing situation in the district or their surroundings; therefore the level of participation in the first activity was already high. Since then it has remained high, and people have started contemplating themselves what

else could be done or improved in the district (INT_06, 09.04.2014). This situation undoubtedly is influenced by many factors (e.g., also common cause that will be discussed in the next chapter), but it cannot also be denied that people-place connection has played a role.

To sum up the discussion above, it is difficult to talk about the people-place connection on the city level, but it is possible to identify aspects of people-place connection in four out of five study areas (Sarkandaugava, Bolderāja, Ķīpsala, and Maskavas forštate). Whether in all cases it can be seen as a source of resilience is debatable as in Ķīpsala this connection is developing after the transformation of the area. However, in general, people-place connection plays a role in motivating leaders and active agents as well as residents to act in response to the existing situation that is perceived as undesirable in other study areas (similarly to what has been already suggested in the literature) hence facilitating adaptation in these districts. Finally, it can be argued that specific characteristics of the place are important (like location, identifiable borders, and historical identity) for the people-place connection to emerge, but local activities are needed for strengthening this connection.

6.6 Common cause

Common cause can be viewed as a source of resilience due to its role in bringing people or actors together for joint action. The literature suggests several variations of a common cause: a sense of purpose (or joint purpose), positive outlook (Buikstra et al., 2010), and vision (Wilson et al., 2013). In the analysis of sources of resilience to urban shrinkage in Riga, it has been attempted to identify the role of common cause in the context of the activities carried out by different actors and to understand the way it relates to different responses to urban shrinkage.

Similarly to people-place connection, the role of common cause has mostly been related to motivating actors to respond to an undesirable situation or a problem in some way. It has often led to establishing some form of organization or institution to deal with one or more issues or to pursue some objective or vision. Overall, it is easier to identify what impact a common cause has had on the local (district) level or among local actors than on the city level. It can be due to the situation that the common causes on the local level are more concrete or specific (if only spatially) which makes it easier for people or actors to relate to it and get involved. Additionally, it is possible to identify specific instances when a joint cause can be considered a reason for bringing people together in creative initiatives that are not spatially bound to one district or area in Riga. Also, the common cause has led to some improvements in the work of municipal institutions (e.g., in dealing with environment degrading buildings in the city).

One such specific instance has been movement Free Riga which has a specific purpose of bringing life back to the abandoned buildings in Riga. This purpose was the reason

why a group of people that have been thinking about or doing something in this direction got together and formed a movement. Since then, it has evolved and also been officialized as an NGO, but the cause that was a starting point of this initiative has remained the same. It was also said in one of the interviews that interest of the general public in this topic or problem had been an additional motivation to launch the movement and continue with it even in times when some activities did not work out as expected (INT_04, 03.04.2014). That shows the necessity of support from the general public to facilitate the continued existence of such initiatives.

Other creative initiatives in Riga, e.g., those that are promoting and helping with the improvements of inner yards of residential quarters in the city, can also be linked to a specific common cause - to improve the living environment of the residents outside the city center. however, in this case, the common cause or idea behind the initiatives has not been the only or main source of their emergence – these initiatives might have never been established without the framework and funding opportunities provided by the European Capital of Culture Riga 2014. It was also expressed in one of the interviews that their future after 2014 is very uncertain (INT_11, 17.04.2014). It demonstrates not only differences among creative initiatives in Riga and the role of having a specific cause among these organizations, but also a need for other forms of support that can facilitate their continuous work.

On the local (district) level, the common cause has played and is playing a significant role in the work of local NGOs. Several of the NGOs from the study areas refer to specific issues that have brought like-minded people together and eventually prompted the foundation of an NGO. In one of the interviews, an expert mentioned that nothing brings people together like big problems (INT_18, 29.04.2014), and this has been the case in Sarkandaugava, Bolderāja, and Ķīpsala. In Sarkandaugava, it all started with a closure and near demolition of the local culture house and continued with problems related to pollution, in Bolderāja – the plans to build oil terminal in Daugavgrīva (neighboring district of Bolderāja), but in Ķīpsala – with the objective to protect local heritage (based on INT_05, 08.04.2014; INT_07, 11.04.2014; INT_10, 17.04.2014). Essentially, these type of issues that local people decide to fight for or fight against are important catalysts for starting local activities, building local community, and forming local organizations. Most of them stay at the core of activities carried out by the local NGOs as a priority issue, but new issues arise with time and organizations tend to formulate a wider range of priorities that guide their activities in the long term. Interestingly, it was also expressed during the interviews that in the case of failing to resolve specific priority issues, the local NGO might cease to exist. That is the case of Sarkandaugava where the NGO is fighting against the redevelopment of a street into a 4-lane road for cargo traffic. As this street is located near residential quarters, the implementation of this project is seen as a serious threat to the quality of life in the district. The most pessimistic scenario that was

expressed during the interviews was related to the termination of the NGO as there will be nothing more to fight for (INT_05, 08.04.2014). It would also result in cessation of all the other activities taking place in the district.

Overall, the reviewed examples of local NGOs show that the organizations were formed based on joint issues or problems that gave them a sense of purpose to start their activities in the respective districts. In some cases, it has grown into a wider range of activities that can also be classified, for example, as activities in response to degradation of the urban environment. However, it is also possible to observe a slightly different pattern. In Maskavas forštate, the formation of the local NGO was more influenced by the process of learning as discussed before. Nevertheless, the local NGO has a positive vision or outlook for the future that is guiding many of the activities carried out in the district (especially those related to improving public spaces in the district; INT_06, 09.04.2014). It shows a different kind of common cause which still reflects the problems existing in the district but do not put them at the core of the work carried out by the NGO. The main objective in Maskavas forštate is to make it the most beautiful, least dangerous, most accessible, and so forth district for the residents (INT_06, 09.04.2014). In a way, this objective includes a vision, a purpose and also promises a positive outlook for future that the local actors and residents can strive for.

Another actor group where common cause seems to play a role are developers. Again, it is only possible to use Ķīpsala as an example where major redevelopment of degraded building stock has taken place; therefore it cannot be considered as a general trend. However, it gives an insight into the role of common cause in the context of transformation. According to the interviews, the developers saw this district as an ingenious place for development. It led to ideas for development and projects that could be framed together as a specific vision for Ķīpsala. In a way, this vision of the district has also prompted the foundation of the local NGO (which has been done by the same group of people responsible for the development projects in Ķīpsala) to protect their interests – to protect the redeveloped historical residential part of the district from undesirable development trends in its vicinity or territory (INT_07, 11.04.2014). Overall, the example of Ķīpsala shows that it requires a vision to be able to transform a district or some parts of it completely. Moreover, it also shows that it can lead to a purpose to protect the obtained result through other measures.

To summarize, it can be said that the common cause (in one or the other form) has played a role in facilitating activities by different actors in Riga and its districts. Essentially, it has worked as a catalyst that helps to organize key individuals for joint action and motivator to continue and expand some activities. Regarding responses to urban shrinkage in Riga, it can be concluded that common cause has facilitated both adaptation and transformation on the local and city level. At the same time, it has to be noted that com-

mon cause is the source of resilience that facilitates responding to undesirable changes, but it cannot be considered as a mandatory precondition for the response process.

6.7 System of institutions and governance

In the literature on resilience, it is possible to find references to the importance of the system of institutions and governance for achieving resilience (in the context of both transformation and adaptation). However, the reviewed literature provides comparatively little insights into aspects of the system of institutions or governance that are facilitating resilience which creates some difficulties in performing an analysis on the existing situation in Riga. The only concept that provides some analytical basis is suggested by Ross et al. (2010). The authors use engaged governance as an indicator of social resilience and provide several criteria that can be used for analysis, including participation and involvement of non-government actors, impact or influence of non-government actors, and trust in government. These are also the aspects used to obtain insights into the existing system of institutions and governance in Riga based on the interview results and secondary information analysis.

To ensure that readers can follow the aspects discussed in this chapter, a brief general overview of the structure and decision-making process of local government in Riga is provided as contextual information. It helps to highlight what are the possibilities of non-governmental actors to express their opinions or get involved in work of Riga City Council as stated in the law and regulations (especially in the context of urban planning and development). After that, the discussion moves on to the analysis of the opinions of different actors which reflects the situation in Riga (with a specific focus on the involvement of non-government actors in decision-making and problem-solving process and impact of the non-government actors on the decision-making process).

According to Riga City municipality regulations, the main decision-making body in Riga is Riga City Council. It is composed of 60 Council members or Councillors that are elected by the residents of Riga. The Council is led by the Chairman of Riga City Council (the Mayor of Riga) or in his absence – the Deputy Chairman (the Riga Vice Mayor). The regulations also state that the Mayor of Riga, the Vice Mayor or any other Councillor has a duty to receive visitors: the Mayor and the Vice Mayor - at least once a month, but all the other Councillors – at least once in two months. It is not specified whether there are any limitations as to who can make an appointment, for example, with the Mayor of Riga or what questions or issues should one address in such meetings. It allows assuming that there are no general restrictions as long as the appointment is made in advance and in line with the schedule of the Mayor (this also applies for other Councillors) (Rīgas dome, 2011a).

The issues relevant to Riga City are discussed, and the decisions are taken in the City Council meetings. As there are many issues that the Council needs to deal with on a

regular basis, the topics that are being discussed in these meetings are prepared by the Committees. There are 8 Committees in total, and each works in a specific field. Except for one, all the Committees are linked with the Riga City Council's Departments that carry out municipality's functions in the same field (e.g., City Development Committee is linked with the City Development Department, see Figure 21) (Rīgas dome, 2011a).

The Committees are formed of Councillors (elected by the Council) and led by a Chairman of the Committee. Each Councillor can participate in 1 or 2 Committees. The Committees perform a variety of tasks which also include a duty to cooperate with NGOs, ministries, and other municipalities in Latvia and abroad within their field of competence. For example, a Committee can review a proposal or suggestion from an NGO and prepare it for discussion at the Council meeting or a Committee can prepare a proposal for the provision of support to NGOs in a specific field that again needs to be discussed at the Council meeting. The Chairman of the Committee also has a duty to meet with the residents of Riga to discuss issues that are within the competence of the specific Committee (Rīgas dome, 2011a).

As already mentioned before, there are different Departments that carry out functions of the municipality. These together with municipality's institutions with special status (Executive Directorates, Riga City Building Construction Directorate, and others) deal with the majority of interactions with residents and other stakeholders on a daily basis. Normally, there is a certain procedure that one needs to follow for a request, question, complaint, suggestion or other type of issues to be processed. Those who fail to follow the basic rules or attempt to manage the communication anonymously can be ignored. In general, the everyday interaction with different stakeholders involve a great variety of municipality services and functions; therefore the procedures for each of them will not be discussed here as only a few of them are relevant to the specific topic of this chapter.

To fulfill specific functions of Riga municipality, it is also possible to create Commissions, Working groups, Boards of Experts and similar entities. These can be created as a separate entity within a specific Department and can include different officials (representatives of institutions within Riga municipality), Councillors as well as residents and various experts (Rīgas dome, 2011a). For example, there is a Riga City Council's Budget Commission that deals with main budgetary issues of the municipality. It is comprised mostly of Councillors (Mayor of Riga, Vice Mayor of Riga, Chairmen of various Committees and Council factions) as well as the Executive Director of Riga City Council and other officials. Another example is the previously discussed Commission of Environment Degrading Buildings which besides municipality officials and two Councillors includes representatives of state institutions.

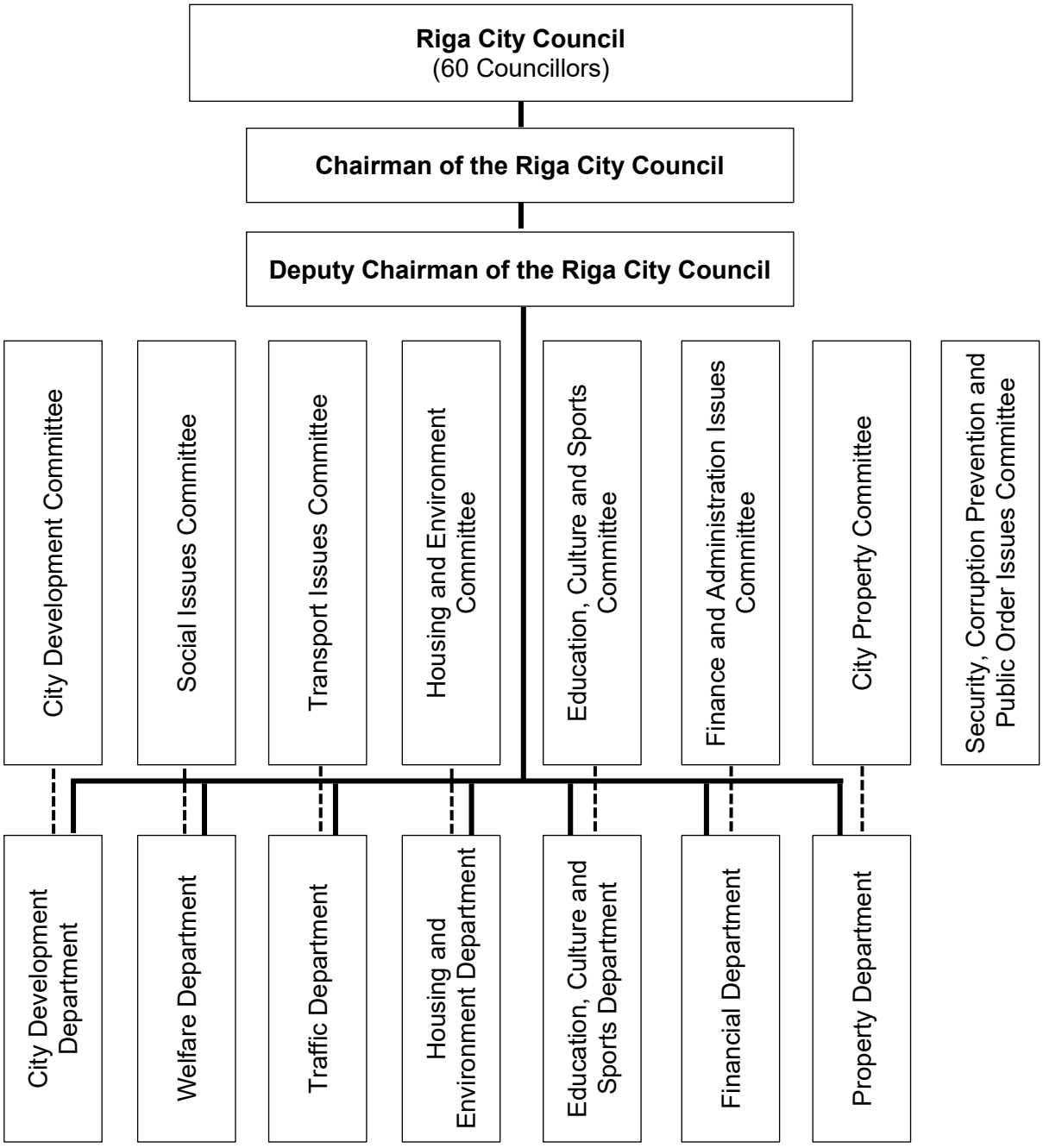

Figure 21 General structure of Riga City Council (excluding central administration, agencies and institutions with special status; based on Rīgas dome (2011b)

Another municipal institution that ensures involvement of non-government actors is Riga municipal agency "Rīgas pilsētas arhitekta birojs" (Riga Architect Bureau). The agency itself plays a rather specific role of providing support to different actors involved in the urban development process (especially if it is related to architecture) and facilitating co-operation between different stakeholders involved in this process. In this context, the agency has created a special board that meets on a regular basis and discusses different development projects taking place in Riga as well as other issues related to Riga architecture. The board includes many non-government actors and, for example, NGOs are

invited to join the board repeatedly to ensure involvement of society in the discussion of topics that are of relevance for the whole population of Riga (INT_13, 25.04.2014).

Besides the tasks and duties of different officials and institutions to involve or work with different actors, the regulations also specify that for advisory purposes the municipality can organize a public discussion on issues that are within the autonomous competence of the local government (Rīgas dome, 2011a). The exception is spatial development planning documents for preparation of which the public participation is mandatory, and organization of a public discussion is a must (this is also indicated in Spatial Development Law and other national regulations). In general, anyone has rights to express their opinion on the specific issue that is the subject of the public discussion orally or in written form, e.g., on a draft version of a planning document. Afterward, the relevant institution preparing the planning document has to evaluate the received proposals or opinions and decide whether to take them into account and incorporate into the document. These decisions have to be justified. Also, the public and the submitter of the opinion has to be informed about the decision (Spatial Development Planning Law, 2011).

Finally, there are also other ways how the public can participate in the local planning process besides the public discussions. Over the last decade, public involvement in the urban planning process in Riga has gone beyond the basic requirements stated in the law and can include a variety of events. For example, it is possible to refer to the activities carried out by the City Development Department in the preparation of next Riga Spatial Plan. The Department has financed residents' survey for each district and organized public meetings in Riga districts already in the research stage of the planning process. Furthermore, they have organized thematic seminars involving a variety of actors, guided tours in Riga districts together with the residents to understand the problems on site, and several other events that are not requested in the legislation (Liepa-Zemeša, 2013; Rīgas domes Pilsētas attīstības departaments, 2015b).

From the short overview of the system of institutions and decision-making and public involvement process in Riga municipality, it can be understood that there are several options how non-government actors can participate or be involved in the work of municipality and urban development process. The interviews, however, reveal the actual options that non-government actors use to address the issues that are important to them. Firstly, the residents and local NGOs tend to mostly focus on sending official letters to Riga City Council and relevant state institutions or on participating in public discussions, forums or other events for public involvement. Overall, the interaction takes place mostly with officials, and their efforts have rendered varying results regarding impact. The situation was possibly best summarized in one of the interviews where it was expressed that there is a possibility to make an impact in some cases, but in others – there is not (INT_05, 08.04.2014). To illustrate this, several examples from study areas (Sarkandaugava, Ķīpsala, and Bolderāja) will be reviewed.

The most often mentioned example when discussing unsuccessful cases of the residents attempting to impact development plans in their district was Sarkandaugava and the specific case of Tvaika street redevelopment project. According to the local NGO, implementation of the planned project will result in a considerable decrease of quality of life of residents from the surrounding residential quarters. It is related to the foreseen increase of heavy motor vehicle traffic flows which will result in increased noise and air pollution as well as vibrations that can damage the surrounding buildings. Additionally, the implementation of the project would put a stop to attempts of creating a promenade along Tvaika street which is something that the residents together with the NGO have been working on over the past couple of years. The local NGO within their capacity have made their concerns known to relevant institutions in Riga City Council. They have had discussions with the representatives, but the final decision at the moment of conducting the research remained unchanged – the project will go through as it is and will not be reconsidered. Essentially, the residents feel that their interests have been ignored, but they also plan to continue fighting against this particular development project involving other major stakeholders in the district to give their opinion more weight (based on INT_05, 08.04.2014; INT_03, 02.04.2014).

Despite the not so successful case of Tvaika street redevelopment project, the local NGO in Sarkandaugava still thinks that their activities have had an impact on the urban planning process in Riga. The interviews revealed that from the many letters and suggestions that the local NGO has written and sent to the Riga City Council, most had been ignored, but some impact can be felt through the fact that Sarkandaugava for the first time starts to show up in the strategic planning documents of Riga. They do not take credit for incorporation of all the aspects that are relevant to Sarkandaugava district in the upcoming planning documents. However, it was expressed that maybe their activities and persistence has added to other inputs, for example, in creating the need to focus also on districts near Riga Freeport as areas that require attention. Furthermore, the NGO has done considerable work to combat air pollution in the district or at least to make it a known problem that affects the quality of life of the residents. They have obtained an opinion of an ombudsman that states that such environmental problem exists in Sarkandaugava and certain actions must be taken (INT_05, 08.04.2014). Overall, it is possible to describe also other small 'victories' or contributions to larger causes as examples of the impact the local NGO has achieved during their existence period which indicates that with the determination of local actors some things can be accomplished.

As it was described in one of the previous chapters, the local NGO in Ķīpsala was created to protect the interests of the residents and the historical part of the district from unwanted development projects. From the interview materials, it can be understood that this has been so far an unsuccessful process. For example, locals tried to stop a construction of a private house in the historical part of Ķīpsala that, according to them, architecturally

was not befitting the area. They collected signatures and submitted a complaint to Riga City Council, but it was not possible to stop the project. Also, their opinion was not asked when building a marina for yachts. Based on the interviews, there was no public discussion or consultation, and it was built without informing the local community. Consequently, a complaint was submitted to the relevant institution, but without a positive result (INT_07, 11.04.2014). Overall, the local NGO in Ķīpsala is a relatively new organization which also might account for only negative experiences in attempts of impacting development trends in the district. However, these examples also demonstrate that some projects in Riga can still be put through even without any public involvement.

Finally, the case of Bolderāja or more precisely actions of active residents of Bolderāja and the surrounding districts can be seen as an example of the use of more radical approaches for achieving that the interests of the residents are taken into account. Namely, an NGO submitted a complaint to the Constitutional court of the Republic of Latvia related to the specific part of Riga Spatial Plan 2006-2018 outlining development plans for Riga Freeport territories. These plans would have had a considerable impact on the quality of life of the residents of the surrounding districts (including Bolderāja, Daugavgrīva, Mangaļsala, and Kundziņsala). The court proceedings took place in December 2007, and the verdict was announced in January 2008. It was such that the discussed part of the Spatial Plan was recognized as invalid and not in force (Latvijas Republikas Satversmes tiesa, 2008). Following the verdict, the situation did not change for the better immediately. In fact, there were publications in media making statements that the relevant institutions and developers are not taking into account the verdict (Jakušonoka, 2008) which reflects an unforeseen situation in Riga planning process and incompetence or lack of will of the local and national government to deal with the existing situation according to the law.

A more recent example of an impact made by locals in the same area is linked to the protests against the construction of oil terminal in Daugavgrīva which would have had a considerable impact on the quality of life also in Bolderāja and other nearby districts. Based on the information found in media (Hāka, 2014), 13 thousand people had signed a petition against the construction of the oil terminal and during the public discussion of the construction project 3450 residents and three organizations expressed deprecatory views on the subject. Taking into account that Riga City Council also had some reservations about the proposed project, it was not approved until adequate solutions for infrastructure can be found.

Another topic of discussion is involvement or incorporation of creative initiatives not only in the decision-making but also a problem-solving process. As it has already been described in the analysis of different activities in response to urban shrinkage in Riga, there are quite a few initiatives that are doing something to improve the existing situation in Riga, but the cooperation with Riga City Council or received support from the municipal institutions varies from one case to another. Three different examples will be briefly

summarized here to illustrate the situation. First of all, initiative “Lielās Talkas Pagalmu Sakopšanas kustība” is an example where there has been no real cooperation with or support from Riga municipality. This initiative has been mainly organized by two NGOs and supported by European Capital of Culture – Riga 2014. Its activities have been directed towards improvement of inner yards (public spaces) of residential quarters in Riga which, in fact, is also an objective set out by Riga City Council. Overall, the joint objective would seem like a good basis for cooperation and joint problem-solving process, but the reality is considerably different. The interviews reveal that Riga municipality has not been involved in the activities carried out by the initiative (INT_11, 17.04.2014). Interestingly, Riga City Council has initiated a parallel action program executed by the Executive Directorates and also directed towards improving the quality of inner yards in residential quarters in Riga. In general, the activities of both organizations are in no way comparable as the format of work and the results are very different. Riga City Council is generally funding those improvements in inner yards of residential quarters that cannot be implemented by the initiative (e.g., improving driveways and walkways) due to limited resources, but they pay less attention to other important aspects (e.g., recreational areas for the residents) that are the main focus of the initiative. Unfortunately, the interviews did not reveal whether there have been any attempts at communication or establishing some cooperation between both organizations, but it was indicated that it is quite likely that the information on separate activities has reached the other party only through media.

The second example is related to cooperation of Riga City Council’s Property Department with movement Free Riga. As it has already been described in the previous chapters, RCC Property Department and movement Free Riga are both focusing their activities on dealing with abandoned and degraded buildings in Riga, but the objectives and approaches employed again are very different. In this case, there have been ongoing attempts at establishing cooperation with various results. At the time of doing the interviews, there was not a mutually acceptable agreement of cooperation in place, but the situation has improved afterward as it was proclaimed during communication at a later stage. Overall, the interviews revealed that both parties had a quite different understanding of what this cooperation could look like and what could be the benefits of working together. The attitudes expressed in the interviews towards the potential cooperation also showed some reservations on both sides. On the one hand, there was a lack of trust in the given promises, but on the other hand, there was an expression of doubt that the suggested activities can have a real impact on the existing situation in Riga (based on INT_01, 31.03.2014; INT_04, 03.04.2014). In this context, it becomes quite clear why establishing a working cooperation for the joint problem-solving process was not easy to achieve.

Finally, the third example is in a way a successful case of cooperation between non-government actors and the local government in Riga. Here the reference is made to pro-

ject “Radi Rīgu!” which was organized by a group of non-government actors but in cooperation with the representatives of Riga City Council. Essentially, the idea of the project was to apply the principles of collaborative planning in working with five different spaces in Riga (including one in Bolderāja and one in Maskavas forštate). The motto of the project was ‘public space as an instrument of social revival,’ and it was organized in the form of master classes which allowed involvement of a variety of actors. The interviews reveal that at the early stages of project planning no one believed that such project would be a success, but the organizers kept on and insisted on having an agreement with the Riga City Council that the results will be implemented. Surprisingly, such agreement was signed, and the results were such that the proposed projects for two spaces in Riga were approved for the implementation process (INT_17, 28.04.2014).

When reflecting on reasons behind this comparatively successful case of cooperation between non-government actors and Riga City Council, there are several aspects that could have played some role. First of all, it has to be pointed out that the project leaders of “Radi Rīgu!” are valued members of the professional community of urban planners and architects in Latvia and abroad and with wide professional and personal networks in the field. Second, the initiative had a concept of a project with a clear format, objectives, foreseen results, and financial support from European Social Fund which can give the initiative more credibility. Finally, the organizers were the ones initiating and insisting on cooperation with different institutions of Riga City Council as well as their involvement in the project itself. These are, however, assumptions that need to be viewed in the larger context where many other factors could have had an impact on the outcome.

The interview results revealed not only different experiences of the non-government actors regarding involvement and impact on the decision-making and problem-solving process in Riga but also several crucial reasons behind the existing situation. Firstly, it is possible to talk about legal and structural limitations in the existing legislation and governmental system in Riga that puts some restrictions on the level of impact non-government actors can achieve or the degree of cooperation in the problem-solving process.

First of all, the 58 districts that have been defined in Riga for planning purposes are not structural elements in the local government system (INT_16, 26.04.2014). At the time of the research, the districts can be perceived as statistical units used for data gathering for planning purposes or planning units, but they are not administrative units and are not represented in any way in the decision-making structure of the city. There have also not been allocated any resources for management of the districts – either as human resources within the structure of Riga municipality or as financial grants for local NGOs in the districts. In one of the interviews, it was said that the representatives of the districts could go and discuss the issues of their interest to Riga City Council and its institutions, but they most likely will receive a diplomatic response including variety of arguments why

some things cannot be done, or some issues cannot be solved (INT_16, 26.04.2014). At the same time, the districts are seen as a concept that could be used to improve things in the future, but it would require some representation of the non-government organizations in the decision-making mechanism.

In the planning system, districts are spatial units that could be used as the basis for developing local plans for specific parts of the city. However, due to the comparatively recent introduction of the local plans in the Latvian planning system, this process had not yet fully started at the time of conducting the research; therefore it is difficult to assess what interests will dominate the development of these local plans. The emerging pattern among the few existing examples gives an impression that the economic considerations are the main driving force for development in the areas where the local plans are being prepared.

The second aspect that was mentioned by several experts in a variety of contexts is related to private property. The majority of the property in Riga nowadays belongs to private owners, and it creates several side-effects that are worth mentioning. Possibly the main impact of not having a private property for a very long time is that it has somehow become more important than anything else. It was expressed in the interviews that “it sometimes seems that Latvia is the only country where there is private property” or that “the private owners (and their interests) are put on the pedestal” (INT_10, 17.04.2014). It also transpires in the attitude from Riga municipality regarding the city’s spatial plan – it is viewed as a guideline of what can be done in the city, not what will be done there as they cannot dictate to the private proprietors what should they be doing with their property (INT_12, 23.04.2014). Occasionally, it leads to situations when interests of the residents are not taken into account and priority is given to the developer or the private owner.

The municipality also uses ‘private property’ as a way to avoid responsibility. According to the legislation, a municipality cannot invest or support financially private proprietors, and there are no real mechanisms how to deal with this situation (the exceptions maybe are those cases when, for example, a building is a threat to public safety). It often creates problems with ensuring construction of proper infrastructure when developing vacant land in the city. Moreover, under recent declining economic situation and lack of financial resources among private proprietors, the municipality is unable to provide basic support to the private proprietors that would be interested to cooperate in dealing with, for example, degrading urban environment or buildings in the city. It allows concluding that the local government is not getting fully involved with the existing problems in the city in the first place (instead of non-government actors not being involved in the decision-making process in Riga).

Finally, on several occasions, interview partners referred to ignorance or lack of interest from the general public in the processes taking place in Riga. It was expressed through

statements like “many things are not important for the people [living there]” or “honestly speaking, a representative of the general society does not care about things that do not affect him directly and very often also about the things that do” (INT_17, 28.04.2014). Essentially, the reference is made to the people’s disinterest in processes or development trends outside their personal living space (apartment) unless it somehow directly affects their lives. Even in the case there is a direct impact on their everyday lives or living conditions, they are most likely not willing to get involved in the problem-solving or any other processes.

To explain this phenomenon, one of the interviewees said that “in these apartments live very secluded people” that need to learn to agree on issues to do something (INT_03, 02.04.2014). In a different interview, it was revealed that members of general society are not aware of the existing structures dealing with, for example, planning processes in the city. It was clearly expressed that members of the general society do not know that there is a Riga City Council’s City Development Department, they are only able to understand or are aware of those structural elements that they need to interact with. Something like City Development Department is very impersonal to them (INT_17, 28.04.2014).

Additionally, people seem to be concerned only with the immediate future. It transpires from the public involvement in the planning process in Riga. In one of the interviews, it was revealed that there is considerably less interest from different actors in the Strategy (Riga Sustainable Development Strategy) which is a long-term planning document than in the Investment Programme (Riga Development Programme) which describes more or less concrete actions for next 3 to 7 years (INT_12, 23.04.2014). Overall, this shows that people are not ready or able to relate to long-term strategic actions which might cause some difficulties in dealing with slowly occurring disturbances like urban shrinkage.

In general, it is difficult to make an overall conclusion related to the system of institutions and governance in Riga as many of the examples described in this chapter are based on specific situations. However, there are several aspects that emerge as generalizable trends and provides some insights into the existing situation. First of all, there are opportunities for involvement of non-government actors into work of the local government as defined in the regulations, but it is not clear to which extent these opportunities are used by both the local government and the non-government actors. The interviews reveal that non-government actors are mostly dealing with municipal institutions carrying out specific functions in the city. It takes place as part of a problem-solving or urban planning process through some form of cooperation or discussion, respectively. At the same time, the involvement of non-government actors in the decision-making process is very limited which has been explained by deficiencies in the structure of governance system in Riga. Second, the possibilities to make an impact on the decisions and work of the local government varies from one case to the next. Overall, there are several successful as well as unsuccessful examples. There are also indications that whenever strong economic inter-

ests are at play; it is more difficult to make an impact by the non-government actors that are not the main stakeholders in the process. It has caused some organizations to use rather radical approaches to protect their interests from undesirable urban development or processes. Essentially, it demonstrates a lack of openness and flexibility in the decision-making process and possible favoritism towards some non-government actors.

Besides these trends, data analysis revealed that people are not always willing to get involved in the problem-solving or any other process that affects the living environment outside their dwelling. As has been suggested in one of the previous chapters, the residents have to learn that they can get involved and make an impact on the processes taking place in the city and their districts. This learning process normally occurs in those areas where there are active agents promoting and facilitating local action. Essentially, it also allows concluding that without the key individuals working for the interests of the residents or specific cause, the involvement of non-government actors into work of municipality could be considerably lower.

Finally, it is very challenging to establish a concrete link between the system of institutions and governance and responses to urban shrinkage in Riga. It is clear that governance plays a role in facilitating both adaptation and transformation. However, taking into account that it is difficult to talk about engaged governance in Riga, and there are indications that local government is not prepared or inclined to engage with the existing problems related to urban shrinkage fully, the existing system of institutions and governance can be seen more as an obstacle than a facilitator.

6.8 Summary of the main results

In Chapter 6, the discussion focuses on seven different sources of resilience to urban shrinkage that are analyzed in the context of Riga at the city and district level. The general conclusion is that all seven aspects are facilitating adaptation and most of them are also contributing to bringing about transformation in the city. There are some differences or nuances that can be linked to specific response types, but taking into account that the examples of activities leading to transformation are considerably fewer, these results have to be treated with caution. For example, the results suggest that leaders with entrepreneurial and collaborative skills can put forward activities leading to adaptation, but for transformation to take place a leader with visionary skills might be needed. Also, types and amounts of available or accessible resources can impact the emerging responses. The majority of the activities leading to adaptation in Riga districts have been implemented with limited human and financial resources (the exception would be municipality led renovation and regeneration projects). However, in the case of transformation on the district level, it was possible to identify a need for considerable financial resources and unused built infrastructure. Finally, learning from experience can be linked to both

adaptation and transformation, but innovation and experimentation seem to be more crucial for transformative processes.

It is also possible to distinguish several sources of resilience without which the activities that have been identified in Riga would not have taken place (in a way, these can be termed as mandatory requirements for adaptation and transformation to occur). Those are leadership (presence of leaders and active agents), networks, resources, and learning. Other sources of resilience like people-place connection and common cause are also important but function more as an additional facilitator or motivator that helps to move things forward (especially on the local level). Finally, the system of institutions and governance can play a significant role in responding to urban shrinkage, but the analysis of the situation in Riga demonstrates that the existing governance system cannot be characterized as engaged in the majority of the reviewed situations and hence its impact is limited.

At the same time, it has to be emphasized that there are also differences how these sources of resilience are distributed among different spatial units and levels as well as actors. Firstly, the presence of leaders and active agents can be identified in all study areas as well as in Riga city in general, but the analysis revealed that those spatial units where only active agents were identified demonstrated a limited scope of the implemented activities. The people-place connection also cannot be equally identified in all study areas, and in one case, it can be argued that it has developed after the transformation of the area (after the response). Furthermore, common cause seems to be playing a more important role among non-government actors. In these cases, problems, ideas, and vision are typical drivers and motivators for action which is not always the case in governmental institutions.

Another important aspect is that all of the identified sources of resilience are linked. For example, a leader or active agent without a network from which to draw necessary support or gain access to resources is unlikely to be able to implement any activities. Also, key individuals or organizations that do not learn from their previous mistakes and experiences or are afraid to try new approaches in problem-solving process will eventually cease to make an impact on the existing situation through their work. Moreover, people-place connection and common cause can facilitate the emergence of leaders and active agents as well as the formation of networks. Overall, this allows concluding that for adaptation or transformation to occur, it requires networked sources of resilience where one aspect facilitates or ensures access to another.

Finally, there were several instances where it was possible to identify deficiencies in existing sources of resilience in Riga. It was already mentioned before that it was not possible to identify leaders in all spatial units of analysis, including Riga city in general. Many actors also referred to the lack of or limited resources (human and financial) that hinder their capacity to implement more or more extensive activities for the improvement of the

existing situation. Also, there are some challenges in establishing cooperation between non-government and government actors which is linked to the existing system of institutions and governance. In general, these findings also demonstrate the main aspects where some improvements are needed.

7 Conclusions

This thesis has looked at the process of urban shrinkage in Riga using resilience as a conceptual framework for structuring and guiding the research work. The main findings are described in detail in Chapters 4 till 6. Chapter 4 describes the main phenomenon under study in Riga and its districts as well as relevant contextual information that helps to understand and analyze the results. Chapter 5 focuses on the analysis of different responses to urban shrinkage in Riga, but Chapter 6 looks at drivers (sources of resilience) behind adaptation and transformation. The main findings and conclusions are briefly summarized in this chapter. Reflections on open questions that could not be replied with the chosen methodology or available data are also indicated.

Urban shrinkage in Riga: context

The main phenomenon under study is urban shrinkage – a complex process that affects all dimensions of urban life. In the case of Riga, the complexity is even greater due to the global and national context it occurs in. Firstly, Latvia underwent major political and economic transformation (similarly to many other Eastern European countries) in 1990 due to the collapse of the Soviet Union. It led to a period of instability that can be characterized by waves of migration, negative natural population growth, and de-industrialization. It also marks the beginning of population loss in Riga.

The political transformation also meant that the whole governmental and legal systems had to be created anew, including the spatial planning system. Overall, the 25 years of independence can be characterized by ever-changing planning system in Latvia with continuous attempts to take over development planning practices from abroad. These constant changes have not helped municipalities to ensure continuity of development planning from one planning period to the next, and the general trend so far has been largely characterized by catering to the economic interests of private developers. Additionally, the lack of long-term strategic perspectives or thinking on the national, regional, and local level has led to rather liberal and uncoordinated urban development in Riga.

The situation has been made even more complicated by the privatization process. It has resulted in a fragmented proprietary structure which has created additional challenges in dealing with the effects of urban shrinkage in Riga. The dominance of private property has also been used as an excuse by governmental bodies to avoid fully engaging with the problems emerging from uncoordinated urban development or urban shrinkage.

An impact has also been caused by the global economic crises in 2008 which put a stop to the economic growth and slowed down growth-oriented urban development in Riga. It also brought about another period of instability and emigration. Additionally, regional processes like suburbanization also need to be mentioned, especially considering their direct impact on facilitating urban shrinkage in Riga.

Responses to urban shrinkage in Riga

Against this background, it is probably not surprising that urban shrinkage is not acknowledged in existing Riga planning documents and it is not possible to say that the local government is dealing with the emerging situation in a comprehensive way. The analysis, however, reveals that there are actions (strategic actions and activities) carried out by different actors in response to the processes associated with urban shrinkage in Riga (population loss, degradation of the urban environment, and thinning-out of public infrastructure). These actions have been analyzed on the district and city level and generalized as responses to urban shrinkage in Riga (see Table 21).

Table 21 Summary of identified responses to urban shrinkage in Riga (own compilation)

Responses	Local (district) level	City level
Mitigation	-	√
Adaptation	√	√
Transformation	√	-
Possible further decline	√	-

The responses to urban shrinkage that have been identified in Riga are mitigation, adaptation, and transformation. Additionally, some of the strategic actions and development processes taking place in the city allowed hypothesizing that there might be a further decline in some of Riga's districts.

Mitigation is a response that can generally be observed on city (also national) level and is directed towards changing the continuous trend of population decline. It has been reflected in strategic actions of local and national government, but the implementation and impact of these strategic actions were unknown or unclear at the time of the study. However, the character of the identified strategic actions allows doubting that the objective to stop the population decline can be achieved.

Adaptation is the only response that can be identified on both district and local level in Riga. It is brought about through a wide variety of actions by different actors in response to all of the identified processes associated with urban shrinkage in Riga. It is also the response type where cross-scale and cross-sectoral impacts play a major role. For example, there are several cases in Riga where localized transformative projects result in adaptation on the district level or actions in one domain of urban life are an adaptive response to negative trends in another (like optimization of a network of educational institutions is adaptation to population loss).

Transformation is a very specific response to the existing situation and can only be identified on the district (in one case) or more local (unit) level in Riga. It is the response type that makes use of the opportunities provided by urban shrinkage in a city instead of trying to change the trend or adjust to it. The actions linked with transformation in Riga are mainly directed towards changing the functional use of areas or units (also through

improvements in physical structures) which lead to alterations in other domains of urban life.

The available data also allowed to identify existing patterns of actions behind these responses (see Table 22). It shows the role of each actor group in bringing about specific responses to urban shrinkage in Riga and their spatial scale of impact.

Table 22 Patterns of actions and responses to urban shrinkage in Riga (own compilation)

Actor group	**Type of actions**	**Response**	**Spatial scale**
National government →	Strategic action(s) →	Mitigation →	National/city
Local government →	Strategic action(s) →	Mitigation →	City
		Adaptation →	City/local
		Possible decline →	Local (district)
Local government →	Activities →	Adaptation →	City/local
Creative initiatives →	Activities →	Adaptation →	City/local
Local NGOs →	Activities →	Adaptation →	Local (district)
Developers →	Activities →	Transformation →	Local (district)

Strategic actions that are put forward by governmental bodies (national or local) are addressing the processes associated with urban shrinkage in Riga on various degrees and levels of consistency. It also shows in resulting responses from strategic actions proposed by Riga municipality. If adaptation and mitigation are two strategies that appear at the same time also in other contexts (e.g., climate change), then possible further decline on the district level is contradicting both. The situation is such that Riga planning documents are not looking at urban shrinkage as a complex process that requires a shift in thinking about the urban development. The vision described in the planning documents refers to increase of population and development of degraded territories in the city. However, the municipality's approach of defining largely vacant or green land as degraded territories that allows facilitating their development according to the long-term urban development strategy suggest a different outcome. The likely scenario is going to be a growth-oriented development increasing competition among Riga districts which can lead to further decline in some of the less advantageous districts.

The patterns of activities show greater consistency than the previously described patterns of strategic actions. The majority of activities carried out by the local government, creative initiatives and local NGOs contribute to adaptation on the city and local level. The spatial scale of impact or response emerging from specific activities is largely defined by the

scope of each actor group. Those that carry out activities throughout the city contribute to adaptation on both spatial scales, but those that are focusing on improving the situation in one particular urban area contribute to adaptation in the specific district.

In the context of activities, it is also possible to talk about transformation as a response to urban shrinkage. However, the reference here is made not only to a specific actor group (developers) but also to a specific district in Riga where several activities leading to transformation are concentrated in one urban area and have resulted in major changes also in other domains of urban life.

Finally, it has to be mentioned that it is also possible to identify lack of activities that contribute to another response type - decline. The reference is made to private proprietors who are unable to undertake necessary actions and deal with the abandoned and degraded buildings in their ownership. It is an especially worrying trend in those Riga districts where the concentration of the degraded buildings is the highest (e.g., in Avoti).

The analysis also has some deficiencies. Although it was possible to conclude what are the responses to urban shrinkage in Riga, the qualitative nature of the study did not permit to assess the impact of these responses on the existing situation or the level of resilience to urban shrinkage in Riga. However, it is clear that the identified responses are emerging from an uncoordinated set of actions by various actors and are not intended as a comprehensive response to this complex disturbance. It allows concluding that the likelihood of high level of resilience to urban shrinkage in Riga is low and it might become even lower in the long term if the approach to dealing with the existing situation is not changed.

Overall, the obtained results support the notions defined in the theoretical assumptions for the first research question (RQ1: What are responses to urban shrinkage in Riga?) and provide the basis for adding new dimensions to the theoretical framework. The first aspect that needs to be considered is that in cases when the phenomenon is not an unavoidable process (meaning it can be stopped or changed for better at least in theory), mitigation is also likely to be one of the responses. However, taking into account that the notions behind mitigation are not the same as the idea behind resilience concept, it raises the question whether and how mitigation can be linked with resilience. Tol (2005) has argued in the context of climate change policy that “adaptation and mitigation are substitutes” and that “the more mitigation, the less adaptation is needed” and vice versa (Tol, 2005, p. 572). The author also concludes that “adaptation cannot be readily compared to mitigation because most adaptation is done by different people” (Tol, 2005, p. 577). In general, the latter also emerges from this study. It is clear that mitigation cannot be directly facilitated by local actors or those actors that do not have decision-making power, and the local government is the only actor that is contributing to both adaptation and mitigation in response to urban shrinkage. Whether adaptation and mitigation can be seen as

substitutes in case of urban shrinkage is, however, debatable and not a question that can be answered based on this study. However, an argument can be made that many activities that directly contribute to facilitating adaptation either on the city or local level are also indirectly facilitating mitigation by making the urban environment more attractive for the existing and potential residents hence a link between the both can be identified.

Furthermore, it is clear that adaptation can have several forms or types. Adaptation that has been described in the theoretical part of this work could be better defined as reactive adaptation (adaptation that occurs only after the disturbance has caused a negative impact on the urban area). However, the identified actions suggest that anticipatory or proactive form of adaptation is also likely to take place. The reference is made to all those activities (mostly by local actors) that are contributing to making Riga districts more attractive to residents but cannot be directly linked with the processes associated with urban shrinkage. It is a proactive response type that occurs in response to a general demand by the local community to improve some aspects of the urban life which in turn makes the urban area more resistant or slows down the onset of the undesirable changes caused by shrinkage. It can be characterized by some form of adjustments, but it occurs even before the disturbance has had a noticeable negative impact on the urban system. This notion of different types of adaptation can also be linked to ideas found in resilience literature (see Smit & Wandel, 2006).

However, this study does not permit to conclude whether similar typology is relevant also for transformation. The reviewed examples of transformative actions were too few, and all of them could be classified as reactive. The suggestions found in the literature (see Folke et al. (2010)) show attempts at differentiation between two types of transformation – active and forced, but this notion could not be verified with the identified examples of transformation in Riga. All of them would classify as active transformation – deliberately initiated by actors, and would not account for cases of other forms of transformation.

Sources of resilience to urban shrinkage in Riga

Besides the different responses to urban shrinkage in Riga, the study also focused on identifying drivers behind adaptation and transformation or sources of resilience. This part of the analysis was structured around seven general concepts: leadership, networks, resources, learning, people-place connection, common cause, and the system of institutions and governance or, more precisely, engaged governance. The general conclusion is such that all these sources of resilience are necessary for bringing about both adaptation and transformation and most of them can be identified in Riga. There are some exceptions to this general statement that will be discussed later, but, firstly, the main results are summarized in Table 23.

As can be understood from the information included in the summary, the sources of resilience to urban shrinkage in Riga are not consistently distributed across spatial scales and actor groups. The qualitative nature of the study prevents from making a more precise

assessment, but the most crucial deficiencies regarding sources of resilience are related to the availability of resources and the existing system of governance. Also, leadership can be considered a problem area on the city level.

Table 23 Summary of sources of resilience to urban shrinkage in Riga (own compilation)

Sources of resilience	City level	Local (district) level
Leadership (presence of leaders and active agents – key individuals that are in position to make things happen)	Lacking a leader that can push forward necessary changes on the municipal level; active agents can be identified.	Leaders and active agents can be identified, but not everywhere.
Networks (that are used by key individuals to access additional support or resources and disseminate information)	Possible to identify both on the city and local (district) level; the structure and elements of the networks vary from one case to the next and is largely defined by the core institution or organization, its spatial scale of functioning, and activities.	
Resources for implementation of different actions (human resources, financial resources, and built/material resources)	Available resources differ among actor-groups; in the majority of cases, however, human and financial resources have been characterized as limited, insufficient or lacking; organizations with no resources largely depend on their abilities to gain access to necessary resources.	
Learning (informal learning, innovation, and experimentation)	Can be identified in various forms across all actor groups and spatial scales, but the level of impact or gain varies depending on the organization or institution.	
People-place connection (that facilitates involvement in activities or problem-solving process in the specific geographical area)	Not very pronounced	Varies from one district to the next; impacted by the identity and geographical location of the district.
Common cause (purpose, positive outlook, vision that facilitates action)	Can be identified in the case of those organizations or institutions that deal with specific issues; lacking an overall common cause on the municipal level (long-term strategy is not functioning as such).	Can be identified in those districts where local organizations exist.
Engaged governance (involvement and impact of non-government actors on decision-making and problem-solving process)	Involvement of non-government actors in decision-making process is largely limited, and the impact varies from one case to the next; the successful examples are the result of active work of key individuals	

Additionally, it has to be noted that there are some particularities related to sources of resilience on different spatial scales of analysis as well as reviewed response types (adaptation and transformation). First of all, it can be said that people-place connection is an important source of resilience on a local level, but has limited impact on the city level. The results also suggest that people-place connection plays little role in facilitating transformation, but other place-related aspects do (e.g., exclusive location).

Furthermore, leadership, learning, and resources are important for both adaptation and transformation, but there are different aspects of these sources of resilience that can be

attributed to each response type. Firstly, an attempt to relate specific leadership types with identified responses to urban shrinkage was made based on the available data. The results suggest that for transformation to occur, it requires a visionary leader, but for adaptation – a greater importance is given to entrepreneurial and collaborative skills. In the case of learning, it can be suggested that adaptation can occur through learning from experience or others, but for transformation to take place, some form of innovation or experimentation is also needed. Finally, the availability of unused built infrastructure (especially in exclusive location) is crucial for transformation. It stems from the general character of this response type – through transformation the actors are making use of the opportunities created by shrinkage (e.g., abandoned buildings) and developing something new. However, if the concentration of unused and degraded built infrastructure is too high and not linked with other favorable conditions (e.g., location), there is a greater risk of possible further decline.

It was possible to identify also other risks that can impact the level of resilience to urban shrinkage in Riga. First, many locally based organizations and creative initiatives exist because there are one or several key individuals that are able and willing to dedicate their time to a specific cause. In all cases, each key individual has a specific role in the organization and loss of this individual would result in cessation of some of the organization's activities or even threaten the existence of the organization. Taking into account that these organizations are carrying out many activities leading to local adaptation, this can be seen as an important risk for maintaining the existing level of resilience to urban shrinkage in Riga. Second, the limited involvement of non-government actors in the decision-making process is posing another threat to the existence of local organizations. The reference is made to one specific case where a local NGO is ready to stop their activities if alternative solutions to urban development trends are not found. In other cases, the situation is not so extreme although some decisions of the local municipality have had a negative impact or response from the residents. It allows concluding that current approach to governance is also posing a risk to locally-based adaptive actions.

Overall, these findings contribute to understanding differences between processes of adaptation and transformation in the city and the existing risks associated with sources of resilience to urban shrinkage in Riga. However, they have to be treated with caution as the aspects related to transformation have been reviewed only in one specific district in Riga which cannot be considered a fully representative case of the general trends. Also, the qualitative nature of the study does not allow to assess level or impact of each source of resilience (and the specific criteria) leaving room for further research.

Regardless the limitations of the study, it is still possible to define those sources of resilience without which none of the identified responses would have been implemented. Those are leadership (presence of leaders and active agents), networks, resources, and learning. Other sources of resilience function as additional drivers or catalysts that help to

make things happen. It also needs to be emphasized that the reviewed sources of resilience are interconnected, and they largely work as drivers for change only in combination with each other. It is a notion similar to ideas expressed by Norris et al. (2008). The authors talked about networked adaptive capacities as drivers of community resilience which resonates with the findings of this study. Further research would be needed to develop a methodology for assessment of identified networked sources of resilience in an urban environment that would allow evaluating city's potential to respond to urban shrinkage or other slow burns.

8 References

Aigbavboa, C. & Thwala, W. (2012) An exploration of the use of Delphi methodology in housing satisfaction studies. In: Laryea, S., Agyepong, S. A., Leiringer, R. & Hughes, W. (eds.) *Procs 4th West Africa Built Environment Research (WABER) Conference*, *24-26 July 2012, Abuja, Nigeria*. pp. 147–161

Amundsen, H. (2012) Illusions of Resilience? An Analysis of Community Responses to Change in Northern Norway. *Ecology and Society* 17 (4). Available from: http://www.ecologyandsociety.org/vol17/iss4/art46/ [Accessed 16th June 2015].

Apsīte, E.; Krišjāne, Z. & Bērziņš, M. (2012) Emigration from Latvia under economic crisis conditions. *International Proceedings of Economics Development and Research* 31, 134–138. Available from: http://www.ipedr.com/vol31/025-ICSSH%202012-S10005.pdf [Accessed 4th March 2014].

Axinn, W. & Pearce, L. D. (2006) Mixed Method Data Collection Strategies. New York, Cambridge University Press.

Beauregard, R. A. (2009) Shrinking Cities in the United States in Historical Perspective: A Research Note. In: Karina Pallagst, Jasmin Aber, Ivonne Audirac, Emmanuele Cunningham-Sabot, Sylvie Fol, Cristina Martinez-Fernandez et al. (Eds.) *The Future of Shrinking Cities: Problems, Patterns and Strategies of Urban Transformation in a Global Context.* IURD Monographs, 2009-1. Center for Global Metropolitan Studies, Institute of Urban and Regional Development, and the Shrinking Cities International Research Network, pp. 61–68.

Berkes, F., Colding, J. & Folke, C. (2003) Introduction. In: Berkes, F., Colding, J. & Folke, C. (eds.) *Navigating social-ecological systems: Building resilience for complexity and change.* Cambridge, Cambridge University Press, pp. 1–29.

Bērziņš, M. (2011) *The role of the geographic mobility in the process of suburbanisation in Latvia.* [*Iedzīvotāju ģeogrāfiskās mobilitātes loma suburbanizācijas norisēs Latvijā*]. Doctoral Thesis. University of Latvia.

Beyer, E. & Brade, I. (2006) Post-Socialist Countries. In: Oswalt, P. & Rieniets, T. (eds.) *Atlas of shrinking cities*. Ostfildern, Hatje Cantz, pp. 146–147.

Bontje, M. (2004) Facing the challenge of shrinking cities in East Germany: The case of Leipzig. *GeoJournal* 61, 13–21.

Boyce, C. & Neale, P. (2006) Conducting In-Depth Interviews: A Guide for Designing and Conducting In-Depth Interviews for Evaluation Input. Pathfinder International Tool Series, Pathfinder International. Available from: http://www2.pathfinder.org/site/DocServer/m_e_tool_series_indepth_interviews.pdf. [Accessed 22nd October 2014].

Brooks, N. (2003) *Vulnerability, risk and adaptation: A conceptual framework. Tyndall Centre Working Paper No. 38*. Available from: http://www.tyndall.ac.uk/sites/default/files/wp38.pdf [Accessed 8th March 2013].

Buikstra, E.; Ross, H.; King, C. A.; Baker, P. G.; Hegney, D.; McLachlan, K.; Rogers-Clark, C. (2010) The components of resilience - Perceptions of an Australian rural community. *Journal of Community Psychology* 38 (8), 975–991.

Carpenter, S., Walker, B., Anderies, J. M. & Abel, N. (2001) From Metaphor to Measurement: Resilience of What to What? *Ecosystems* 4 (8), 765–781.

Flick, U. (2009) An Introduction to qualitative research. 4th ed. London, SAGE.

Folke, C.; Carpenter, S. R.; Walker, B.; Scheffer, M.; Chapin, T. & Rockström, J. (2010) Resilience Thinking: Integrating Resilience, Adaptability and Transformability. *Ecology and Society* 15 (4). Available from: http://www.ecologyandsociety.org/vol15/iss4/art20/ [Accessed 6th March 2013].

Galletta, A. (2013) Mastering the semi-structured interview and beyond. From research design to analysis and publication. New York, New York University Press.

Gallopín, G. C. (2006) Linkages between vulnerability, resilience, and adaptive capacity. *Global Environmental Change* 16 (3), 293–303.

Gordon, T. J. (1994) *The Delphi Method.* Available from: http://www.gerenciamento.ufba.br/Downloads/delphi%20(1).pdf [Accessed 9th March 2013].

Großmann, K., Haase, A., Rink, D. & Steinführer, A. (2008) Urban Shrinkage in East Central Europe? Benefits and Limits of a Cross-National Transfer of Research Approaches. In: Nowak, M., Nowosielski, M. & Dürrschmidt, J. (eds.) *Declining cities--developing cities: Polish and German perspectives.* Poznań, Instytut Zachodni, pp. 77–99.

Gunderson, L. H. (2003) Adaptive dancing: interactions between social resilience and ecological crises. In: Berkes, F., Colding, J. & Folke, C. (eds.) *Navigating social-ecological systems: Building resilience for complexity and change.* Cambridge, Cambridge University Press, pp. 33–52.

Gupta, J.; Termeer, C.; Klostermann, J.; Meijerink, S.; van den Brink, M.; Jong, P.; Nooteboom, S. & Bergsma, E. (2010) The Adaptive Capacity Wheel: a method to assess the inherent characteristics of institutions to enable the adaptive capacity of society. *Environmental Science & Policy* 13 (6), 459–471.

Haase, D. (2008) Urban Ecology of Shrinking Cities: An Unrecognized Opportunity? *Nature and Culture* 3 (1), 1–8.

Hazans, M. & Philips, K. (2011) *The Post-Enlargement Migration Experience in the Baltic Labor Markets. Discussion Paper No. 5878.* Available from: http://ftp.iza.org/dp5878.pdf [Accessed 10th July 2015].

Hollander, J. B. (2011) Can a City Successfully Shrink? Evidence from Survey Data on Neighborhood Quality. *Urban Affairs Review* 47 (1), 129-141.

Hollander, J. B., Pallagst, K., Schwarz, T. & Popper, F. J. (2009) Planning Shrinking Cities. *Progress in Planning* 72 (4), 223–232.

Holst Laursen, L. L. (2008) *Shrinking Cities or Urban Transformation!* Ph.D. Thesis. Aalborg University.

Hsu, C. C. & Sandford, B. A. (2007) The Delphi Technique: Making Sense of Consensus. *Practical Assessment, Research & Evaluation* 10 (10).

Kotilainen, J., Eisto, I. & Vatanen, E. (2015) Uncovering Mechanisms for Resilience: Strategies to Counter Shrinkage in a Peripheral City in Finland. *European Planning Studies* 23 (1), 53–68.

Kühn, M. & Fischer, S. (2011) Strategic Planning - Approaches to Coping with the Crisis of Shrinking Cities. In: Müller, B. (ed.) *Urban regional resilience: How do cities and regions deal with change?* Heidelberg, Springer, pp. 143–146.

Kulig, J. C.; Edge, D.; Guernsey, J. (2005) *Community Resiliency and Health Status: What are the Links?* Lethbridge, University of Lethbridge. Available from: http://www.ruralwildfire.ca/sites/ruralwildfire/files/Resiliency.pdf [Accessed 10th October 2014].

Legeby, A. (2009) Accessibility and Urban Life. Aspects on Social Segregation. In: Daniel Koch, Lars Marcus, Jesper Steen (Eds.) *Proceedings of the 7th International Space Syntax Symposium. 7th International Space Syntax Symposium. June 8-11, 2009, Stockholm, Sweden.* Available from: http://www.sss7.org/Proceedings/08%20Spatial%20Configuration%20and%20Social%20Structures/064_Legeby.pdf [Accessed 5th April 2013].

Lejnieks, J. (1989) *Riga Architecture [Rīgas arhitektūra]*. Riga, Avots.

Lutz, W. (2007) Adaptation versus mitigation policies on demographic change in Europe. *Vienna Yearbook of Population Research 2007*, 19-25.

Magis, K. (2010) Community Resilience: An Indicator of Social Sustainability. *Society & Natural Resources* 23 (5), 401–416.

Maguire, B. & Cartwright, S. (2008) *Assessing a community's capacity to manage change: A resilience approach to social assessment.* Australia, Bureau of Rural Sciences. Available from: http://adl.brs.gov.au/brsShop/data/dewha_resilience_sa_report_final_4.pdf [Accessed 30th November 2012].

Malcolm, J.; Hodkinson, P. & Colley, H. (2003) The interrelationships between informal and formal learning. *Journal of Workplace Learning* 15 (7/8), 313 - 318

Martinez-Fernandez, C. & Wu, C.-T. (2009) Shrinking Cities: A Global Overview and Concerns about Australian Mining Cities Cases. In: Karina Pallagst, Jasmin Aber, Ivonne Audirac, Emmanuele Cunningham-Sabot, Sylvie Fol, Cristina Martinez-Fernandez et al. (Eds.) *The Future of Shrinking Cities: Problems, Patterns and Strategies of Urban Transformation in a Global Context.* IURD Monographs, 2009-1. Center for Global Metropolitan Studies, Institute of Urban and Regional Development, and the Shrinking Cities International Research Network, pp. 29–36.

Martinez-Fernandez, C., Audirac, I., Fol, S. & Cunningham-Sabot, E. (2012) Shrinking Cities: Urban Challenges of Globalization. *International Journal of Urban and Regional Research* 36 (2), 213–225.

Masser, I. & Foley, P. (1987) Delphi Revisited: Expert Opinion in Urban Analysis. *Urban Studies* 24 (3), 217–225.

Mayring, P. (2007) On Generalization in Qualitatively Oriented Research. *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research* 8 (3). Available from: http://www.qualitative-research.net/index.php/fqs/article/view/291/641 [Accessed 1st July 2015].

Miller, F.; Osbahr, H.; Boyd, E.; Thomalla, F.; Bharwani, S.; Ziervogel, G.; Walker, B.; Birkmann, J.; Van der Leeuw, S.; Rockström, J.; Hinkel, J.; Downing, T.; Folke, C. & Nelson, D. (2010) Resilience and vulnerability: complementary or conflicting concepts? *Ecology and Society* 15 (3). Available from: http://www.ecologyandsociety.org/vol15/iss3/art11/ [Accessed 16th May 2015].

Müller, B. (2011) Urban and Regional Resilience - A New Catchword or a Consistent Concept for Research and Practice? In: Bernhard Müller (Ed.) *Urban regional resilience: How do cities and regions deal with change?* Heidelberg, Springer, pp. 1–13.

Mykhnenko, V. & Turok, I. (2007) *Cities in Transition: East European Urban Trajectories 1960-2005. Working Paper No. 4.* Available from: http://www.gla.ac.uk/media/media_51286_en.pdf [Accessed 16th June 2015].

Nelson, D. R., Adger, W. N. & Brown, K. (2007) Adaptation to Environmental Change: Contributions of a Resilience Framework. *Annual Review of Environment and Resources* 32 (1), 395–419.

Norris, F. H.; Stevens, S. P.; Pfefferbaum, B.; Wyche, K. F. & Pfefferbaum, R. L. (2008) Community Resilience as a Metaphor, Theory, Set of Capacities, and Strategy for Disaster Readiness. *American Journal of Community Psychology* 41 (1-2), 127–150.

Olsson, P.; Gunderson, L. H.; Carpenter, S. R.; Ryan, P.; Lebel, L.; Folke, C. & Holling, C. S. (2006) Shooting the rapids: navigating transitions to adaptive governance of social-ecological systems. *Ecology and Society* 11 (1). Available from: http://www.ecologyandsociety.org/vol11/iss1/art18/ [Accessed 7th October 2014].

Oswalt, P. & Rieniets, T. (eds.) (2006) Atlas of shrinking cities. Ostfildern, Hatje Cantz.

Oswalt, P.; Rieniets, T. (2006) Introduction. In: Philipp Oswalt, Tim Rieniets (Eds.) *Atlas of shrinking cities.* Ostfildern, Hatje Cantz, pp. 6–9.

Pallagst, K. (2008) Shrinking Cities - Planning Challenges from an International Perspective. In: Rugare, S. & Schwarz, T. (eds.) *Cities Growing Smaller*. Cleveland, Kent State University, pp. 6–16.

Pendall, R., Foster, K. A. & Cowell, M. (2008) *Resilience and Regions: Building Understanding of the Metaphor.* Available from: http://www.ipg.vt.edu/resilience/docs/PendallR_ResilienceandRegions_v1.pdf [Accessed 14th February 2013].

Perkins, D. D.; Hughey, J.; Speer, P. W. (2002) Community Psychology Perspectives on Social Capital Theory and Community Development Practice. *Journal of the Community Development Society* 33 (1), 33–52.

Pielke, R. A. Jr. (1998) Rethinking the role of adaptation in climate policy. *Global Environmental Change* 8 (2), 159-170.

Rasmussen, E. S., Østergaard, P. & Beckmann, S. C. (2006) Essentials of social science research methodology. Odense, University Press of Southern Denmark.

Resilience Alliance (2010) *Assessing resilience in social-ecological systems: Workbook for practitioners.* Available from: http://www.resalliance.org/index.php/resilience_assessment [Accessed 26th November 2012].

Rieniets, T. (2005) Global shrinkage. In: Oswalt, P. (ed.) *Shrinking Cities: Volume 1: International Research.* Ostfildern-Ruit, Hatje Cantz, pp. 20–34.

Rink, D., Haase, A. & Bernt, M. (2009) *WP1 report: Specification of working model. FP7 Project "SHRINK SMART - The Governance of Shrinkage within a European Context."* Available from: http://www.ufz.de/export/data/400/39013_WP1_Paper_D1_D3_FINAL300909.pdf [Accessed 3rd December 2012].

Rink, D., Haase, A., Bernt, M., Arndt, T. & Ludwig, J. (2010) *WP2 Urban shrinkage in Leipzig and Halle, the Leipzig-Halle urban region, Germany. FP7 Project "SHRINK SMART - The Governance of Shrinkage within a European Context."* Available from: http://www.ufz.de/export/data/400/39014_WP2_report_Leipzig_Halle_kompr.pdf [Accessed 3rd December 2012].

Ross, H.; Cuthill, M.; Maclean, K.; Jansen, D. & Witt, B. (2010) *Understanding, Enhancing and Managing for Social Resilience at the Regional Scale: Opportunities in North Queensland. Report to the Marine and Tropical Sciences Research Facility*. Cairns, Reef and Rainforest Research Centre Limited. Available from: http://rrrc.org.au/wp-content/uploads/2014/06/497-UQ-Ross-H-et-al-2010-Social-Resilience-at-the-Regional-Scale.pdf [Accessed 21st June 2015].

Skulmoski, G. J., Hartman, F. T. & Krahn, J. (2007) The Delphi Method for Graduate Research. *Journal of Information Technology Education* 6, 1–21.

Smit, B. & Wandel, J. (2006) Adaptation, adaptive capacity and vulnerability. *Global Environmental Change* 16 (3), 282–292.

Tasan-Kok, T.; Stead, D. & Lu, P. (2013) Conceptual Overview of Resilience: History and Context. In: Eraydin, A. & Tasan-Kok, T. (Eds.) *Resilient Thinking in Urban Planning.* Dordrecht, Springer, pp. 39–51.

Tol, R. S. J. (2005) Adaptation and mitigation: trade-offs in substance and methods. *Environmental Science and Policy* 8, 572-578.

Turner, B. L., Kasperson, R. E., Matson, P. A.; McCarthy, J. J.; Corell, R. W.; Christensen, L.; Eckley, N; Kasperson, J. X.; Luers, A.; Martello, M. L.; Polsky, C.; Pulsipher, A. & Schiller, A. (2003) A framework for vulnerability analysis in sustainability science. *Proceedings of the National Academy of Sciences* 100 (14), 8074–8079.

Ultramari, C. & Rezende, D. A. (2007) Urban resilience and slow motion disasters. *City & Time* 2 (3), 47–64.

Ušča, M. (2013) *Formation of territorial communities in Riga.* [*Teritoriālo kopienu veidošanās procesi Rīgā*]. Doctoral thesis. University of Latvia.

Walker, B.; Gunderson, L. H.; Kinzig, A.; Folke, C.; Carpenter, S. & Schultz, L. (2006) A handful of heuristics and some propositions for understanding resilience in social-ecological systems. *Ecology and Society* 11 (1). Available from: http://www.ecologyandsociety.org/vol11/iss1/art13/ [Accessed 7th October 2014].

Walker, B.; Holling, C. S.; Carpenter, S. R. & Kinzig, A. (2004): Resilience, adaptability and transformability in social-ecological systems. *Ecology and Society* 9 (2). Available from: http://www.ecologyandsociety.org/vol9/iss2/art5/ [Accessed 6th March 2013].

Wiechmann, T. (2006) *Types of shrinking cities – Introductive Notes on a Global Issue*. [Presentation at the International Symposium “Coping with city shrinkage and demographic change - Lessons from around the globe”]. Dresden, 30 – 31 March 2006. Available from: http://www.schader-stiftung.de/docs/wiechmann_presentation.pdf [Accessed 9th May 2012].

Wilson, S.; Pearson, L. J.; Kashima, Y.; Lusher, D. & Pearson, C. (2013) Separating Adaptive Maintenance (Resilience) and Transformative Capacity of Social-Ecological Systems. Ecology and Society 18 (1). Available from: http://www.ecologyandsociety.org/vol18/iss1/art22/ [Accessed 6th March 2013].

Yin, R. K. (2009) Case Study Research: Design and Methods. 4th ed. Thousand Oaks, Sage.

Zvidriņš, P. (2005) *Introduction. [Ievads]*. In: Zvidriņš, P. (Ed.) *Demographic situation today and tomorrow*. [*Demogrāfiskā situācija šodien un rīt]*. Riga, Zinātne, pp. 7–9.

Secondary data and information sources

Asaris, G. (2004) *Evaluation of Riga Development Plan (1995-2005) implementation.* [*Rīgas attīstības plāna (1995-2005) realizācijas izvērtējums*]. Available from: http://www.rdpad.lv/wp-content/uploads/2014/12/19_roze_asaris_grava_izvertejums.pdf [Accessed 6th November 2014].

Biedrība "Ideju Māja" (2008) *Historical description of the districts.* [*Apkaimju vēsturiskais apraksts].* Available from: http://sus.devel.lv/lv/petijumi/rigas-apkaimju-vesturiskais-apraksts [Accessed 5th November 2013].

Central Statistical Bureau of the Republic of Latvia (2013) *Population and Housing Census 2011 - Final results of the Population and Housing Census 2011 - Riga.* Available from: http://data.csb.gov.lv/pxweb/en/tautassk_11/tautassk_11__tsk2011_riga/?tablelist=true&rxid=992a0682-2c7d-4148-b242-7b48ff9fe0c2 [Accessed 3rd July 2015].

Central Statistical Bureau of the Republic of Latvia (2015) *Statistics Database.* Available from: http://www.csb.gov.lv/en/dati/statistics-database-30501.html [Accessed 9th June 2015].

DELFI (8th October 2013) *Explaining procedure for obtaining Riga citizen's card and status.* [*Skaidro kārtību rīdzinieka kartes un rīdzinieka statusa saņemšanai*]. Available from: http://www.delfi.lv/news/national/politics/skaidro-kartibu-ridzinieka-kartes-un-ridzinieka-statusa-sanemsanai.d?id=43715966#ixzz3Q1gAPGGg [Accessed 27th January 2015].

Dripe, J. (2012) *Riga Development Plan – opportunities, problems and solutions.* [*Rīgas attīstības plāns – iespējas, problēmas un risinājumi*]. Goethe-Institut Riga. Available from: http://www.goethe.de/ins/lv/rig/kul/mag/sta/lv8993505.htm. Accessed 6th November 2014].

Eglīte, P., Ivbulis, B. & Gņedovska I. (2012) *Demographic prognosis for Riga and Pieriga.* [*Demogrāfiskās prognozes Rīgā un Pierīgā*]. SIA "Latvijas Zinātņu akadēmijas ekonomikas institūts", Rīga. Available from: http://sus.devel.lv/files/Demografiskas_prognozes_Riga_un_Pieriga__RD_LZA__2012.pdf [Accessed 9th June 2015].

European Commission (2011) *Demography Report 2010.* Available from: http://ec.europa.eu/social/BlobServlet?docId=6824&langId=en [Accessed 10th July 2015].

Hāka, Ž. (1st April 2014) *Rejected Baltic Oil Terminal's plan to build oil terminal in Riga Free port territory.* [*Noraida Baltic Oil Terminal ieceri Rīgas brīvostas teritorijā būvēt naftas terminālī*]. *Dienas Bizness.* Available from: http://www.db.lv/razosana/noraida-baltic-oil-terminal-ieceri-rigas-brivostas-teritorija-buvet-naftas-terminali-412736 [Accessed 25th August 2015].

Jakušonoka, S. (24th January 2008) *Sandra Jakušonoka: Riga Free port plan and Riga City Council's losses.* [*Sandra Jakušonoka: Rīgas brīvostas plāns un RD zaudējumi*]. *DELFI*. Available from: http://www.delfi.lv/news/comment/comment/sandra-jakusonoka-rigas-brivostas-plans-un-rd-zaudejumi.d?id=20090185 [Accessed 25th August 2015].

Latvijas Republikas Satversmes tiesa (2008) *Verdict in the case No. 2007-11-03 "On the compliance of Riga Spatial Plan 2006-2018 section that concerns Riga Free port territory with the Constitution of the Republic of Latvia, clause 115."* [*Spriedums lietā Nr. 2007-11-03 "Par Rīgas teritorijas plānojuma daļas 2006. – 2018. gadam, kas attiecas uz Rīgas brīvostas teritoriju, atbilstību Latvijas Republikas Satversmes 115. pantam"*]. Available from: http://www.satv.tiesa.gov.lv/upload/2007-11-03_ostas%20lieta.htm [Accessed 25th August 2015].

Lejnieks, J. (2012) *Riga city's future's past.* [*Rīgas nākotnes pagātne*]. *Latvijas architektūra* 100, 96-102

Liepa-Zemeša, M. (2013) *New Riga Spatial Plan development methodology*. [*Jaunā Rīgas teritorijas plānojuma izstrādes metodika*]. *Latvijas architektūra* 108, 78-80

Rīga 2014 (2013) *Yard Renaissance. Urban design project*. [*Pagalmu renesanse. Pilsētvides dizaina projekts*]. Available from: http://riga2014.org/PagalmuRenesanse [Accessed 3rd August 2015].

Rīgas dome (2003 – 2013) *Riga municipality's annual reports*. [*Rīgas pašvaldības publiskie pārskati*]. Available from: https://www.riga.lv/LV/Channels/Riga_Municipality/Publiskais_parskats/default.htm [Accessed 3rd July 2015].

Rīgas domes Īpašuma departaments (2013) *List of environment degrading buildings, collapsed buildings or buildings endangering human safety*. [*Vidi degradējošo, sagruvušo vai cilvēku drošību apdraudošo būvju (graustu) saraksts*]. Available from: http://rdid.lv/uploads/free/dokumenti/graustu_saraksts_rdid_majaslapa_13_12_2013.pdf [Accessed 13th December 2013].

Rīgas domes Pilsētas attīstības departaments (2009) *Districts: About the project.* [*Apkaimes: Par projektu*]. Available from: http://www.apkaimes.lv/about [Accessed 18th July 2015].

Rīgas domes Pilsētas attīstības departaments (2014) *Map: Riga districts*. [*Karte: Rīgas pilsētas apkaimes*]. Available from: http://sus.lv/sites/default/files/media/images/apkaimes/apkaimespad.jpg [Accessed 18th July 2015].

Rīgas domes Pilsētas attīstības departaments (2015a) *Statistics: Population*. [*Statistika: Iedzīvotāju skaits*]. Available from: http://www.apkaimes.lv/stat/iedzivotaju_skaits/ [Accessed 3rd July 2015].

Rīgas domes Pilsētas attīstības departaments (2015b) *Spatial Plan: Development process.* [*Teritorijas plānojums: Izstrādes gaita*]. Available from: http://www.rdpad.lv/rtp/izstrades-stadija/izstrades-gaita/ [Accessed 18th July 2015].

Rīgas domes Sabiedrisko attiecību nodaļa (2013) *Yard repairs will continue in Pļavnieki and Purvciems, will begin in Imanta, Zolitūde, Iļģuciems.* [*Pagalmu remonti turpināsies Pļavniekos un Purvciemā, tiks uzsākti Imantā, Zolitūdē, Iļģuciemā*]. Available from: https://www.riga.lv/LV/PostingData/News/2013/1/pagalmu-remonti-turpinasies-plavniekos-un-purvciema-tiks-uzsakti-imanta-zolitude-ilguciema.htm?WBCMODE=PresentationUnpublished [Accessed 3rd August 2015].

Rīgas domes Sabiedrisko attiecību nodaļa (2014) *Approximately 1/3 of this years planned Riga yard repairs completed.* [*Paveikta apmēram 1/3 no šogad plānotajiem Rīgas pagalmu remonta darbiem*]. Available from: https://www.riga.lv/LV/PostingData/News/2014/7/julija-paveikta-apmeram-tresdala-no-sogad-plnotajiem-rigas-pagalmu-remonta-darbiem.htm?WBCMODE=PresentationUnpublished [Accessed 3rd August 2015].

Rīgas domes Sabiedrisko attiecību nodaļa (2015) *Changes in property tax in Riga – reductions for families with children, increase for land owners.* [*Rīgā mainīsies nekustamā īpašuma nodoklis – samazināsies ģimenēm ar bērniem, pieaugs zemes īpašniekiem*]. Available from: https://www.riga.lv/NR/exeres/72435BA9-B60A-411C-9544-66DE2D80B030.htm?WBCMODE [Accessed 10th January 2016].

Roze, A. (2004) *Evaluation of Riga Development Plan (1995-2005) implementation*. [*Rīgas attīstības plāna (1995-2005) realizācijas izvērtējums*]. Available from: http://www.rdpad.lv/wp-content/uploads/2014/12/19_roze_asaris_grava_izvertejums.pdf [Accessed 6th November 2014].

Sarkandaugavas attīstības biedrība (2013) *Labas vietas TALKA – ideas for Alekša Square in Sarkandaugava.* [*Labas vietas TALKA – idejas Alekša skvēram Sarkandaugavā*]. Available from: http://www.sarkandaugavai.lv/2013/06/labas-vietas-talka/ [Accessed 3rd August 2015].

Sarkandaugavas attīstības biedrība (2014) *Retrospect on Riga community forum "Rīgas kopienu maltīte."* [*Atskats uz Rīgas kopienu forumu "Rīgas kopienu maltīte"*]. Available from: http://www.sarkandaugavai.lv/2014/05/atskats-uz-rigas-kopienu-forumu-rigas-kopienu-maltite/ [Accessed 25th August 2015].

SIA "Aptauju Centrs" & SIA "Projektu un kvalitātes vadība" (2013) *Studies: Residents' surveys on life in districts.* [*Pētījumi: Iedzīvotāju aptaujas par dzīvi apkaimēs*]. Available from: http://www.rdpad.lv/rtp/izstrades-stadija/dokumenti/ [Accessed 21st November 2013].

SIA "Datorkarte" (2012a) *Survey of degraded territories in Riga.* [*Degradēto teritoriju Rīgā apsekojums*]. Available from: http://sus.lv/lv/degradeto-teritoriju-un-objektu-apsekojums-riga [Accessed 3rd July 2015].

SIA "Datorkarte" (2012b) *Quality and availability of services characterizing urban development in Riga's 55 districts.* [*Pilsētvides attīstību raksturojošo pakalpojumu kvalitāte un pieejamība Rīgas 55 apkaimēs*]. Available from: http://sus.lv/sites/default/files/media/faili/apkaimes_ekspertu_novertejums_ok.pdf [Accessed 3rd July 2015].

SIA "Latvijas Fakti" (2013) *Satisfaction of Riga citizens with municipality.* [*Rīgas iedzīvotāju apmierinātība ar pašvaldību*]. Available from: http://sus.lv/sites/default/files/media/faili/pielikums_nr3_dati_apkaimes_gradacija.xls [Accessed 3rd July 2015].

SIA "Metrum" (2007) *Economic and geographic description of districts.* [*Apkaimju ekonomiski-ģeogrāfiskais apraksts*]. Available from: http://sus.devel.lv/files/Rigas_apkaimju_projekta_gala_zinojums_260608_1.pdf [Accessed 5th November 2013].

SIA "SKDS" (2012) *Indicators of satisfaction of Riga citizens with municipality.* [*Rīgas iedzīvotāju apmierinātības ar pašvaldību indikatori*]. Available from: http://sus.lv/sites/default/files/media/faili/gradacija_apkaimes_iedzivotaju_vertejums_ok.pdf [Accessed 3rd July 2015].

Statistics Estonia (2015) PO022: Population by sex, age group and county, 1 January. Available from: http://pub.stat.ee/px-web.2001/Dialog/varval.asp?ma=PO022&ti=POPULATION+BY+SEX%2C+AGE+GROUP+AND+COUNTY%2C+1+JANUARY&path=../I_Databas/Population/01Population_indicators_and_composition/04Population_figure_and_composition/&lang=1 [Accessed 9th July 2015].

Statistics Lithuania (2015) Population at the beginning of the year. Available from: http://osp.stat.gov.lt/web/guest/statistiniu-rodikliu-analize?portletFormName=visualization&hash=302b354f-8511-4993-aeb6-b03fc86c6d3f [Accessed 9th July 2015].

TVNET/LTV1/Četras istabas (2014) *What advantages does Riga citizen's card provide in January? None!* [*Kādas priekšrocības janvārī sniedz rīdzinieku karte? Nekādas!*] Available from: http://www.tvnet.lv/zinas/latvija/492720-kadas_prieksrocibas_janvari_sniedz_ridzinieku_karte_nekadas [Accessed 27th January 2015].

Laws and planning documents

Cross-Sectoral Coordination Centre (2012) *National Development Plan of Latvia for 2014-2020.* Available from: http://www.pkc.gov.lv/images/NAP2020%20dokumenti/NDP2020_English_Final.pdf [Accessed 19th July 2015].

Development Planning System Law (2009) Available from: http://www.vvc.gov.lv/export/sites/default/docs/LRTA/Likumi/Development_Planning_System_Law.doc [Accessed 18th July 2015].

Latvijas Republikas Ekonomikas ministrija (2013) *Action Plan for Support of Remigration 2013-2016.* [*Reemigrācijas atbalsta pasākumu plāns 2013.-2016.gadam*]. Available from: http://polsis.mk.gov.lv/LoadAtt/file10132.doc [Accessed 19th July 2015].

Regional Development Law (2002) Available from: http://www.vvc.gov.lv/export/sites/default/docs/LRTA/Likumi/Regional_development_Law.doc [Accessed 18th July 2015].

Reģionālās attīstības un pašvaldību lietu ministrija (2009) *Development concept of spatial planning system.* [*Telpiskās plānošanas sistēmas attīstības koncepcija*]. Available from: http://www.varam.gov.lv/in_site/tools/download.php?file=files/text/dokumenti/pol_doc/telp_plan//TPS_konc.pdf [Accessed 18th July 2015].

Rīgas dome (2011a) *Riga City Council's Binding Regulations No. 114: Riga municipality statutes.* [*Rīgas domes Saistošie noteikumi Nr. 114: Rīgas pilsētas pašvaldības noliktums*]. Available from: https://www.riga.lv/NR/rdonlyres/C8F4B67C-1E41-4838-A2DD-D1FB24AF681E/57769/Saistosie_noteikumi_Nr114.pdf [Accessed 25th August 2015].

Rīgas dome (2011b) *Riga municipality administrative structure.* [*Rīgas pašvaldības pārvaldes struktūra*]. Available from: https://www.riga.lv/NR/rdonlyres/C8F4B67C-1E41-4838-A2DD-D1FB24AF681E/57770/2pielikums_saist_not_Nr114.pdf [Accessed 25th August 2015].

Rīgas domes Pilsētas attīstības departaments (2014a) *Riga Development Programme 2014 – 2020.* [*Rīgas attīstības programma 2014.-2020.gadam*]. Available from: http://www.rdpad.lv/wp-content/uploads/2014/11/Attistibas_programma.pdf [Accessed 19th July 2015].

Rīgas domes Pilsētas attīstības departaments (2014b) *Riga Sustainable Development Strategy 2030*. [*Rīgas ilgtspējīgas attīstības stratēģija līdz 2030. gadam*]. Available from: http://www.rdpad.lv/wp-content/uploads/2014/11/STRATEGIJA_WEB.pdf [Accessed 19th July 2015].

Rīgas pilsētas Dome Attīstības departaments Arhitektūras pārvalde Pilsētplānošanas nodaļa (1995) *Riga Development Plan 1995-2005. Volume I.* [*Rīgas attīstības plāns 1995-2005. I sējums*]. Riga, Jāņa sēta.

Saeima of the Republic of Latvia (2010) *Sustainable Development Strategy of Latvia until 2030.* Available from: http://www.cbs.nl/NR/rdonlyres/B7A5865F-0D1B-42AE-A838-FBA4CA31674D/0/Latvia_2010.pdf [Accessed 19th July 2015].

Spatial Development Planning Law (2011) Available from: http://www.vvc.gov.lv/export/sites/default/docs/LRTA/Likumi/Spatial_Development_Planning_Law.doc [Accessed 18th July 2015].

Spatial Planning Law (2002) Available from: http://www.vvc.gov.lv/export/sites/default/docs/LRTA/Likumi/Spatial_Planning_Law.doc [Accessed 18th July 2015].

Appendix I – Delphi questionnaire

[translation from Latvian into English]

Since 1990 Riga has lost more than 28% of its population which is an indication of urban shrinkage. **Population loss** is only one of the indicators characteristic of this process. Shrinking city is also characterized by **thinning-out of public infrastructure, an increase of residential and retail vacancies, increasing number of abandoned buildings and land plots, degradation of the built environment as well as changes in land use, reductions in investments and worsening of other important aspects**. However, these characteristics cannot be observed throughout the city evenly, and Riga is no exception. Therefore it is necessary to obtain your opinion to be able to understand the processes of shrinkage in Riga districts.

1. Please name those Riga districts that in your opinion can be characterized by the previously mentioned signs of urban shrinkage. Write the names of the corresponding districts in the empty field below (mention up to 5 districts based on district territories defined by Riga City Council's City Development Department: http://www.rdpad.lv/apkaimju_projekts/apkaimes_liels.jpg).

2. Taking into account that urban shrinkage is a complex process and not all of the previously mentioned characteristics manifest themselves equally in all parts of the city, please, give your opinion on the concentration of certain characteristics in different Riga districts. Write the corresponding names of the districts in the empty field under each question (mention up to 5 in your opinion most conforming examples of districts based on district territories defined by Riga City Council's City Development Department: http://www.rdpad.lv/apkaimju_projekts/apkaimes_liels.jpg).

2.a. In your opinion, in which Riga districts is there a pronounced problem of uninhabited residential buildings?

2.b. In your opinion, in which Riga districts is there comparatively high concentration of vacant retail space?

2.c. In your opinion, in which Riga districts has there been a considerable decrease in economic activity?

2.d. In your opinion, in which Riga City neighborhoods is there comparatively low accessibility to basic services (food stores, education, healthcare and childcare facilities, etc.)?

3. Urban shrinkage not always needs to be perceived as a solely negative process. Sometimes it opens up opportunities for considerable changes that otherwise wouldn't be possible. Therefore, please, name those examples of Riga districts that in your opinion have undergone fundamental changes in their functional and/or structural identity during the last 10-20 years. Write the names of the corresponding districts in the empty field below (mention up to 5 districts based on district territories defined by Riga City Council's City Development Department: http://www.rdpad.lv/apkaimju_projekts/apkaimes_liels.jpg).

4. As changes can manifest themselves in many ways, I would like to ask you to give your opinion on specific aspects that could indicate fundamental functional and/or structural changes in Riga over the last 10-20 years. Write the corresponding names of the districts in the empty field under each question (mention up to 5 in your opinion most conforming examples of districts based on district territories defined by Riga City Council's City Development Department: http://www.rdpad.lv/apkaimju_projekts/apkaimes_liels.jpg).

4.a. In your opinion, in which Riga districts have there been implemented fundamental changes in land/property uses during the last 10-20 years?

4.b. In your opinion, in which Riga districts have there been implemented most significant development projects during the last 10-20 years?

4.c. In your opinion, for the development of which districts has there been a success in attracting comparatively large amount(s) of financial investments for development of real estate and/or improvement of economic environment during the last 10-20 years?

5. Changes that have been caused or affected by urban shrinkage do not always need to be fundamental. In some cases, it is sufficient to implement small changes or improvements (that do not fundamentally change the area's functional and structural identity) for the urban area to be able to adjust to general changes and continue existing with comparatively unchanged identity.

Please, name those examples of Riga districts that, in your opinion, have been able to maintain their functional and structural identity over the last 10-20 years. Indicate both positive and negative examples (mention up to 5 examples in each category based on district territories defined by Riga City Council's City Development Department: http://www.rdpad.lv/apkaimju_projekts/apkaimes_liels.jpg).

5.a. Positive examples (districts that are considered socially advantageous and successful, and that have maintained their identity relatively unchanged over the last 10-20 years)

5.b. Negative examples (districts that are considered socially disadvantageous and with low quality of life, and that have maintained their identity relatively unchanged over the last 10-20 years).

THANK YOU!

Appendix II – List of interviews

No.	Reference[20]	Interviewer	Date	Actor group(s)[21]
1	INT_01	Lita Akmentina	31.03.2014	Representative of Riga City Council
2	INT_02	Lita Akmentina	01.04.2014	Representative of a local NGO
3	INT_03	Lita Akmentina	02.04.2014	Representative of Riga City Council
4	INT_04	Lita Akmentina	03.04.2014	Representative of an initiative/NGO
5	INT_05	Lita Akmentina	08.04.2014	Representative of a local NGO, also a resident
6	INT_06	Lita Akmentina	09.04.2014	Representative of a local NGO, also a resident
7	INT_07	Lita Akmentina	11.04.2014	Developer; Representative of a local NGO, also a resident
8	INT_08	Lita Akmentina	14.04.2014	Representative of Riga City Council
9	INT_09	Lita Akmentina	14.04.2014	Representative of Riga City Council, also Representative of a local initiative
10	INT_10	Lita Akmentina	17.04.2014	Representative of a local NGO
11	INT_11	Lita Akmentina	17.04.2014	Representative of an initiative/NGO
12	INT_12	Lita Akmentina	23.04.2014	Representative of Riga City Council
13	INT_13	Lita Akmentina	25.04.2014	Representative of Riga City Council
14	INT_14	Lita Akmentina	25.04.2014	Representative of Riga City Council
15	INT_15	Lita Akmentina	25.04.2014	Representative of a local NGO, also a resident
16	INT_16	Lita Akmentina	26.04.2014	-
17	INT_17	Lita Akmentina	28.04.2014	Representative of an initiative/NGO
18	INT_18	Lita Akmentina	29.04.2014	Representative of Riga City Council
19	INT_19	Lita Akmentina (via email)	01.06.2014	Representative of an initiative/NGO

[20] The reference code is used to provide a reference in the text to a specific interview as an information source.

[21] Actor group or groups indicates which set of questions has been used for the interview based on the interview guide in Appendix III.

Appendix III – Interview guide

[translation from Latvian into English]

Date:		**Location:**	
Interviewee:		**Time:**	
Introduction:	I want to thank you for taking the time to meet with me today. My name is Lita Akmentina, and I'm a doctoral candidate at Dresden Technical University. I am doing research on urban shrinkage in Riga districts and the ways different actors are dealing with this phenomenon. In this context, I would like to talk to you about [state the specific competence of the interviewee]. The interview should take about an hour. I will be taping the session because I do not want to miss any of your comments. Although I will be taking some notes during the session, I cannot possibly write fast enough to get it all down. Because we are on tape, please be sure to speak up so that we do not miss your comments. All responses will be kept confidential. It means that your interview responses will only be used by me. I will make sure that any information I include in the dissertation does not identify you as the respondent. Remember, you do not have to talk about anything you do not want to, and you may end the interview at any time. Are there any questions about what I have just explained? [provide answers to any additional questions] Are you willing to participate in this interview? [ask to sign the consent form]		
Questions [specific set of questions was prepared before each interview based on the role and expertise of the interviewee or actor]	*The given questions were used to structure the basis of the interviews with selected actor groups. Additional questions were asked based on the content of the interview.* **Representatives of local NGOs** How long have you been involved in the local NGO? Could you briefly describe your role/ responsibilities in the organization? What activities does your organization carry out in the district/in the interests of the local community? Please give examples. Which of the (mentioned) activities do you consider the key activities of your NGO? Please explain. What impact have the activities of your organization had on the district so far? Please elaborate. What are the factors/conditions that help your organization to implement the activities (networks, tools, funding, etc.)? Please elaborate/give examples. Are there some barriers that you (your organization) have encountered when trying to implement some of the activities? Please give examples. How did your organization overcome these barriers? What do you consider the biggest achievement of the NGO so far?		

	Could you explain how it was achieved? How do you ensure the involvement of people in the activities/events in your district? How would you assess the interest/participation of the people so far? Are there some specific goals that your NGO has for the near future? What are you planning to do to achieve them? Does the NGO have a vision how you want to see the district (in the future)? Please describe. **Representatives of Riga City Council (RCC)** How is the issue of urban shrinkage addressed in (planning) strategies of Riga city (e.g., Riga Development Plan)? Are there any actions planned or currently debated for dealing with urban shrinkage on the city level/on a local level? If yes, probe for details. As districts have been defined as planning units in Riga, I would like to focus on districts from now on. If you think about Riga districts, do you think local characteristics/factors matter in how some areas are affected by shrinkage/are dealing with shrinkage? What could be these characteristics/factors? (probe for more details if needed) Has RCC also defined some tools/instruments for local action in districts? If yes, ask for a further explanation (What tools? Who can use them? What are these tools/instruments intended for (problem-solving or development)? Can they be used for dealing with specific problems (like urban shrinkage) on a local level and how?) How RCC ensures the cooperation with other actors/stakeholders in districts, e.g., local NGOs, different initiatives, etc.? How effective has been this cooperation so far? What are the main outcomes (ask for specific examples, probe about examples from case study areas)? Has RCC defined their understanding of 'good district'? If yes, please elaborate (probe for specific details regarding built environment, accessibility, etc.) **Developers** Could you describe your role/the role of your organization in developing _____ [insert relevant district]? Could you please briefly describe the development projects you have been involved with/responsible for in _____ [insert relevant district]? (Probe for specific characteristics of the development projects if needed) If you think about the district now, what would you say has been the impact of these projects on the urban area? How do they fit into the overall development trend of the district? Let's focus now on the actual process of implementing the development projects! If you think back to the decision-making stage of these development projects (or specific development project), were there some pre-

	conditions or factors that influenced the decision to implement the project in the district? Were there some clear barriers? How did you overcome these barriers? (probe for additional explanation if needed) Could you as an example explain the main stages of a development process (from idea to implementation)? [use specific project from the district as an example] Probe for specific pre-conditions, factors or barriers playing a role in the process/each stage. Inquire about the involvement of other actors/stakeholders. If you think about the future of _____ [insert relevant district], what in your opinion would be the best development path for the area? What needs to be improved/changed? (probe for additional explanations if needed) **Representatives of other initiatives/NGOs** Could you briefly describe the idea/objective of your initiative/organization? What is the support you provide to local communities/work you do in the districts? (probe about funding, tools, other types of support if needed) What a local community/district needs to do to join your initiative/get support from your organization? (probe for additional explanation/details) How many local communities/districts have joined your initiative/used the support you provide so far? Talk about specific district(s). Use case study districts as examples. What was done in the district with the help of your initiative? When? What help did the local community/district get from you? What was the main outcome? What effect did it have on the district?
Closing remarks:	That is all from my side. Is there anything more you would like to add? Maybe you have some additional questions to me? I will be analyzing the information you and other interviewees have given me over the next couple of months. Can I get in touch with you if I have some more questions? (Is there anyone you would recommend me to talk about [insert relevant topic of interest]?) Again, thank you for the interview and your time.

Appendix IV – Informed Consent Form for Participation in an Interview

[translation into English]

Dissertation/research project:

"Resilience to Urban Shrinkage in Riga"

Interview process:

The foreseen length of the interview is approximately 1 hour. The interview will be recorded.

Confidentiality:

All responses will be kept confidential. It means that access to your interview responses and recording will only be granted to the researcher. Any information that will be included in the dissertation or any other publication will not identify you as the respondent. All personal information will be deleted or made anonymous.

Voluntary participation:

Participation in this interview is voluntary. You have the rights to refuse to answer a question or stop the interview at any time.

If you have any questions about this interview or research, please contact Lita Akmentina (Dresden Leibniz Graduate School), l.akmentina@dlgs.ioer.de, +371-29680004.

This document has been prepared in two copies. One copy remains with the researcher, but the other is given to the interviewee.

I hereby confirm with my signatue that I have read this document. I understand that my participation in this interview is voluntary. I agree that the interview is recorded. I agree that quotes from my interview can be used in the abovementioned doctoral dissertation. I also agree that parts of my interview can be used in the documents that are intended for publication.

[Name of the Interviewee] _____

Date Signature

Researcher:

Lita Akmentina _____

Date Signature

[Printed on official form of Dresden Leibniz Graduate School]