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## **Spatial resilience in times of great demographic change** A theoretical framework

**Elise Schillebeeckx**

KU Leuven, Faculty of Architecture & University of Antwerp, Department of Sociology, Belgium  
e-mail: elise.schillebeeckx@uantwerpen.be

**Pascal De Decker**

KU Leuven, Faculty of Architecture & Ghent University, AMRP, Belgium  
e-mail: pascal.de.decker@skynet.be

**Stijn Oosterlynck**

University of Antwerp, Department of Sociology, Belgium  
e-mail: stijn.oosterlynck@uantwerpen.be

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### **Abstract**

*We are living in a time of rapid demographic changes. These changes do not only have a great impact on the use of space in our society, but also challenge the way we have been organizing and structuring our space in the past decades. As a reaction, international research centres and governmental bodies are urging the nation states and local communities to increase their spatial resilience. Resilience thinking has its roots in ecology, but has in the meantime travelled to a wide range of disciplines, amongst others socio-spatial studies. Through a critical analysis of the concept of spatial resilience, we argue that it can be used for the study of social processes, provided some necessary adjustments are made. In this paper, we aim to construct a theoretical framework for the study of social-demographic transitions and its impact on the spatial structure. We focus on the question how we can increase the resilience of the spatial structure, rather than to expect that socio-demographic transitions will adapt to spatial planning processes. Using two of the greatest demographic challenges of this century as our cases, namely the ageing of the population and international migration, we show how the often rigid spatial planning methods block the well-needed changes to the built environment and use of space due to too much and too strict regulations. We hereby focus on the situation in Belgium.*

Key-words: resilience, spatial planning, demographic change, ageing, migration

## **0. Introduction**

The ageing of the population and international migration are considered to be two of the most challenging demographic processes in the industrialized world. It is expected that between 2000 and 2050, the proportion of the world's population over 60 years will double from about 11% to 22% (WHO, 2012). In Europe alone, this number will already be achieved by 2025. When it comes to international migration flows, it is much more difficult to predict exact numbers due to unforeseeable conflicts, climate catastrophes and political and economic changes, however the general believe is that migration numbers will not decrease. Migration and ageing are also interconnected in the sense that many developed countries will need to raise their immigration rates in order to be able to deal with the ageing of their population. What is certain is that both processes entail changes that do not only have a great impact on the use of space in our society, but also challenge the way we have been organizing and structuring our space in the past decades.

Meanwhile international research centres and governmental bodies at all policy levels are urging the nation states and local communities to increase their spatial resilience. Whereas the focus of many spatial policies used to be on sustainability, resilience now seems to be a leading objective and guideline for many policy makers in all kinds of policy fields. Resilience thinking has its roots in ecology, but has in the meantime travelled to a wide range of disciplines, including urban studies (Pendall, Foster, & Cowell, 2010). While the extension of concepts across disciplinary boundaries can lead to new insights, it is important to question their underlying assumptions and normative issues. Furthermore, until now it has remained unclear what spatial resilience means for the practice of planning (Wilkinson, 2012). Both resilience thinking and spatial planning are inclined to focus on the physical aspects of space, whereas the interaction with the underlying social processes tends to be overlooked. These concerns raise the following questions: Are crucial aspects missing in the discourse on resilience that call for a different approach when used in a social and spatial planning context? What is needed to make our space more resilient for socio-demographic processes?

The aim of this paper is twofold. First, we aim to construct a theoretical framework for the study of social-demographic transitions and its impact on the spatial structure, building on a critical analysis of the concept of resilience. The second aim of this paper is to explore in what way the spatial planning practices in Belgium are contributing, or rather impeding, the spatial resilience of the region towards demographic processes. Hereto we focus on the case of rural and suburban ageing in the Flemish region and on the case of international migration in the city of Antwerp, Belgium. The paper is divided into four sections. The first section will discuss the difficulties that occur when extending resilience to the context of social sciences and socio-spatial policy. Here, we will also bring in the concept of resourcefulness as an important addition to resilience and come up with our own socio-spatial redefinition of (spatial) resilience. The second section focuses on the spatial planning instruments and methods in Belgium, while the focus of the third section will be on the cases of migration and ageing in the Flemish region. Finally we will summarize our arguments and discuss further implications in conclusion.

## 1. Socio spatial Resilience

### The development of a social scientific view on resilience

Central to the social sciences is the human being in its social environment. Even though man played initially a very limited role within the discourse of resilience – the human being was recognized as partly responsible for changes to the various regional and international ecosystems – this changed in the late 1990's when the Resilience Alliance ([www.resalliance.org](http://www.resalliance.org)) was created. One of the main goals of the Alliance was to rethink Holling's ecological resilience discourse (Holling, 1973) so that it could be used as an overarching framework to study the dynamics between social and ecological systems (Folke, 2006; Cote & Nightingale, 2012). Here, some important questions were raised, namely why can social systems and ecosystems not be considered equals? And why is it that a social-ecological system cannot simply be reduced to the sum of social and ecological systems? We will return to this later.

The theory about SESs (social-ecological systems) is derived from the complex (adaptive) system theory and start from the idea that social and ecological systems are not independent, but constantly influencing each other. In addition to resilience, SES thinking has also a strong affinity with theories relating to the study of robustness, adaptation, vulnerability and sustainability (Cumming, 2011). Cumming (2011) lists in his book "Spatial resilience in social-ecological systems" numerous examples of SES-theory driven research. The variety of research topics is striking: from research to altruism among bat populations, investigations of the apartheid regime in South Africa to the global problems of urban sprawl and suburbanization.

The shift from the study of resilience of ecological systems to resilience of social-ecological systems coincided with a much broader interpretation of the resilience concept. There was not only more attention for the interplay between nature and society, but also for the capacity of adaptation, innovation and learning processes. Change within a system became a crucial aspect of the 'new' resilience thinking. Complementing Holling's definition of ecological resilience, Adger (2000, p. 347) defined social resilience as "*the ability of groups or communities to cope with external stresses and disturbances as a result of social, political and environmental change*". Social resilience is perceived here as a descriptive concept that relates to the social elements in society that allow change to happen without endangering the essential functions of the social-ecological system (Cote & Nightingale, 2012). However, this definition leaves a lot of important issues unclear. What kind of external disturbances are we dealing with? Who belongs to the community? How is dealt with unequal access in society to scarce resources and who controls the access? And what does this mean for the way the so-called external shocks are absorbed and for the manner in which the resulting problems and burdens are distributed across all individuals within the group? Adger (2000) stresses the importance of the institutional context for social resilience, but does not elaborate on this.

Recently, more and more studies are being conducted where the social resilience of socio-ecological systems is investigated in relation to socio-spatial and / or demographic challenges such as ageing in place (Wiles, Wild, Kepa, & Peteru, 2011) and migration (Locke, Adger, & Kelly, 2000; Adger, Kelly,

Winkels, Huy, & Locke, 2002). However, these analyses always proceed within the context of the current system and stoically hold on to the conceptual framework of ecology. The question we must ask is whether resilience simply can be transposed to other disciplines, and more specifically to the social sciences. What about the internal socio-cultural relations within the socio-spatial system? The internal power relations remain all too often overlooked. Although many authors recognize the fact that the positioning of resilience within the tradition of SES-research was an important step to bridge the gap between social and ecological sciences, the extension of resilience notions from ecology to social theory and society stays contested and has some important limitations and caveats (Adger, 2000; Hudson, 2009; Davoudi, 2010; Cote & Nightingale, 2012; Shaw, 2012; MacKinnon & Derickson, 2013).

Another frequently cited issue is the fact that the terminology of ecology cannot easily be translated to social analysis. Social systems do not equal ecological systems. Marcuse (1998) clarifies our argument through his critical remarks about the frequent use of the related concept 'sustainability' outside the ecological movement. Too often it is assumed that sustainability is a neutral term that is characterized by a widespread consensus (De Decker, 2001; Swyngedouw, 2007). However, this is not necessarily true for all disciplines. Using urban development programs as an example, Marcuse (1998) illustrates that social spatial policy is riddled with conflicting visions. This means that policies with a sustainability label are often far from beneficial for everyone. The implantation of a new urban housing project has always winners and losers. The concomitant displacement of (often poorer) original residents serves here as a well-documented example (see for example Slater, 2012). The literal sense of the word does not provide more clarification. Sustainability means the consolidation of the current situation over time, which is from a social justice perspective far from desirable. If we understand sustainability in the strict ecological sense, there will yet be another problem. The call for more sustainable policies avoids the real question, i.e. who or what is responsible for environmental challenges such as pollution and degradation. Marcuse calls therefore for a more careful and thoughtful use of the sustainability concept and emphasizes that, when extended to the social sciences, sustainability should always be a condition and never an end on its own. Here lies a clear parallel with the resilience concept. In its original conception resilience can also be regarded as a conservative concept that has been extended to the social sciences and policies (Swanstrom, 2008). Unlike in ecological systems, social justice is an important parameter in social systems. Social justice is about the allocation of scarce resources, the distribution of burdens and benefits (Morrow, 2008) and the recognition of, and respect for, cultural differences. This commitment to social justice necessarily implies a transformation of social relations and structures that are perceived as unjust.

The integration of yet another naturalistic metaphor for the study of social phenomena within an urban and regional context encounters an additional problem. In ecology, the city is considered to be a social-ecological independent and ahistorical institution, hereby forgetting the influence of cross-border capital flows and international politics (Gandy, 2002 in: MacKinnon & Derickson, 2013). The growing call for a more resilient society that is able to easily adapt itself to new ecological or socioeconomic challenges tends to neglect questions concerning the wider socio-political power relations. This is, in our opinion, a fundamental critique since it can be traced back to the origins of resilience thinking, being the complex system theory. A social system cannot be easily delineated. Is it even possible to speak of 'the' social system? And who defines what kind of characteristics the social system should possess and what thresholds/borders are desirable (Cote & Nightingale, 2012)?

The fact remains that we are not all in the same boat. To achieve social change, the current system should be questioned and if necessary changed radically. The leading system has indeed a wide range of entrenched mechanisms of exclusion and inequality that are maintained by socio-political power relations. The emergence of the Climate Justice Movement that indicts the injustice of climate change and the inequities of geographical distribution of hazards and risks serves here as an illustration. This movement has put for example the unequal exchange in international trade between North and South and the resulting ecological problems on the political agenda. This led to a growing call in countries like China and India for a settlement of the ecological debt (Roberts & Parks, 2009). According to Roberts and Parks (2009) both the literature about the ecological debt and about the unequal exchange between North and South can be situated within the world system theory. This theory posits that national development cannot be separated from the global system in which economic and military power is distributed unequally across the world. The large core countries import raw materials and export finished products and services, while the most peripheral countries within the world system often entirely depend on the export of their natural resources, sometimes supplemented by cheap labour. An adjustment of this pattern is virtually impossible because the great powers have no interest in changing the current economic and political hierarchies. According to world-systems theorists, this also explains why many countries in the South are trapped in ecologically unsustainable patterns. The volatility and periodic collapse of commodity prices are said to encourage poor countries to continually increase the extraction of resources and sale of their raw materials, often with a shrinking profit margin. The following citation from the report "Roots of Resilience: Growing the Wealth of the Poor" (United Nations Development Program, 2008) show that it is not just about the dichotomy North-South, but also about the (inextricably linked) divide between rich and poor, migrants and natives:

*"It is clear that in the coming decades, the rural poor will be tested as the impacts of climate change manifest. There are no cities in the developing world large enough or wealthy enough to absorb the migration of the poor who have no buffer against these dangers and can find no means to adapt. The political and social instability inherent in such potentially massive movements of people is of increasing concern to the international community. [...] The consequences of not acting may well test the depths of compassion" (World Resources Institute 2008, cited in: Walker & Cooper, 2011).*

The above passage highlights the unequal impact of global warming and climate change, meanwhile putting the responsibility at the level of the local communities. Welsh (2013) speaks in this context of a shift in responsibility for possible risks from the state to individuals and institutions. Moreover, migration (and especially migration of the poor) is viewed as a threat for which the developed countries should fully prepare themselves. Otherwise, the danger exists that their sense of solidarity might be tested. Redistribution of resources, or in this case risks, gives way to an ideology that leans dangerously close to the Darwinian "survival of the fittest" (Walker & Cooper, 2011). Since resilience is about adaptation to external disturbances through an endogenous crisis, it becomes problematic, if not impossible, to formulate critique on the resilience discourse from within the system. More and more authors therefore are committed to contribute to *'the development of a 'counter-systemic' model of thought (and practice) that transcends systems theory and resilience thinking'* (MacKinnon & Derickson, 2013, p. 6).

## Resourcefulness

One of these contributions is the alternative approach for resilience by MacKinnon and Derickson (2013) that is based on the concept of 'resourcefulness'. The authors argue for a bottom-up approach that mobilizes diverse communities on the basis of local needs and priorities rather than on the basis of externally imposed goals. They hereby respond to the frequently cited criticism that states that resilience - just like sustainability - is used by policymakers as a top-down strategy that reproduces the current socio-spatial relations in society and puts the final responsibility of external challenges and threats with the urban and regional communities (cf. 'community resilience'). In short, resourcefulness means that the emphasis is put on the unequal distribution of resources within and between communities by focusing on the capabilities of the local community. One of these capabilities that are often neglected by policymakers is local (or non-technical) knowledge. For a better understanding of the link between policy and knowledge, the scientific model of 'explicit' knowledge must be complemented with local knowledge (Innes, 1990). Knowledge is not only produced by experts, but is also implicitly present in each member of the community. Innes (1990) argues therefore for an inclusive, interactive model of knowledge transfer and production.

In summary, we have shown that the alternative perspective of the resilience concept puts a strong emphasis on the equal distribution of resources among the various groups in society, on the existing local knowledge, the various bottom-up initiatives and the unequal socio-political power relations within society. We have warned for the danger of a shift in responsibilities from the state to individuals, civil society and institutions. The alternative interpretation of resilience implies finally a shared social responsibility of society for the unequal vulnerability of social groups and individuals with respect to external shocks, and places hereby social change in the forefront. On the basis of the critique we propose a socio-spatial redefinition of the concept of resilience:

*“Socio-spatial resilience is the capacity of a localized socio-spatial system to actively respond to changes and shocks. Resilience is anchored in the organization of the physical space, but also presumes a more equal distribution of resources amongst local systems ('resourcefulness'). Resourcefulness presupposes a shared social responsibility of society at various geographic scales for the unequal vulnerability of social groups and individuals and the spaces we inhabit and use in relation to changes and shocks ('multiscalarity').”*

## 2. Spatial planning in Belgium

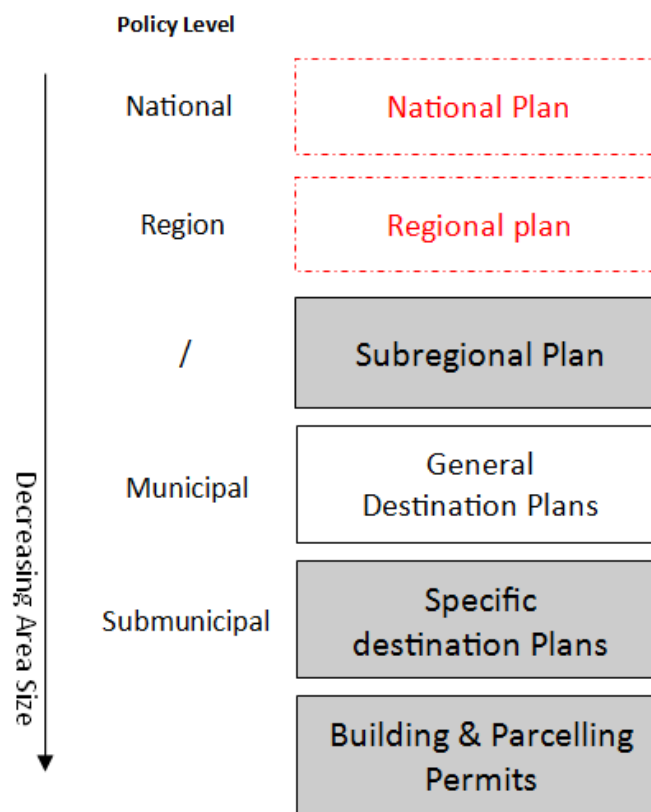
In this section we briefly discuss the Belgian planning system. We will also already explore some of the inherent characteristics and consequences of the spatial planning methods in Belgium –more specifically in the Flemish region- that may or may not have an impact on the resilience of space against socio-demographic processes. We will elaborate on that more through the case of migration and ageing in the next section of this paper.

Although the building permit was introduced in 1946, it is fair to state that until 1962 Belgium had no legislation on spatial planning. This fact caused architect R. Braem to call Belgium *'The ugliest country in the world'* (Braem, 1968). Despite the fact that Belgium did implement its own spatial planning in 1962, the remains of the lack of spatial planning in the booming years after WWII until the late 1970s are still visible today. There are several reasons for the fact that Belgium was all these years deprived of any form of planning infrastructure. One of the main reasons is that Belgium suffered from a long-standing fusion of business interests and land property interests. The political interests of landownership in combination with the great respect for individual property rights was not favourable to planners (Halleux, Marcinczak, & Van der Krabben, 2012). This great respect for individual property rights is still very much alive amongst the Belgian population. Belgium is in this sense a very liberal country where the interests and personal preferences of people are encouraged and easily accepted (Hofstede, 1980 in: Halleux et al., 2012). The following quote illustrates this:

*"In Belgium people build themselves. They buy a piece of land and build a house that they think looks pretty. Whether it fits in the area, forms a unity with the other buildings, let alone whether the neighbours like it to, no one cares."* (Moes, 2014)

In 1962 the first Planning Act was implemented. An important part of the legal instruments in this act consisted of land use plans. A land use plan is a policy document in which the government specifies its view on the future spatial planning within a specific area (Albrechts, 1999). The law of 1962 also included a strong hierarchy of plans, where the underlying idea was that the more you descended down the hierarchy, the more detailed plans you would encounter (and the smaller the area covered by the plan). The hierarchy of spatial planning in Belgium according to the first Planning Act is shown in figure 1. However, most of the spatial plans that were included in the Planning Act of 1962 were never implemented. This is true for the National and Regional Plan (red boxes in the figure). Some general destination plans at the level of the municipalities came about, however the spatial planning in Belgium revolved mainly around the Subregional Plans (48 plans in total), the Specific Destination Plans (BPA's) and the Building and Parcelling permits (grey boxes in the figure).

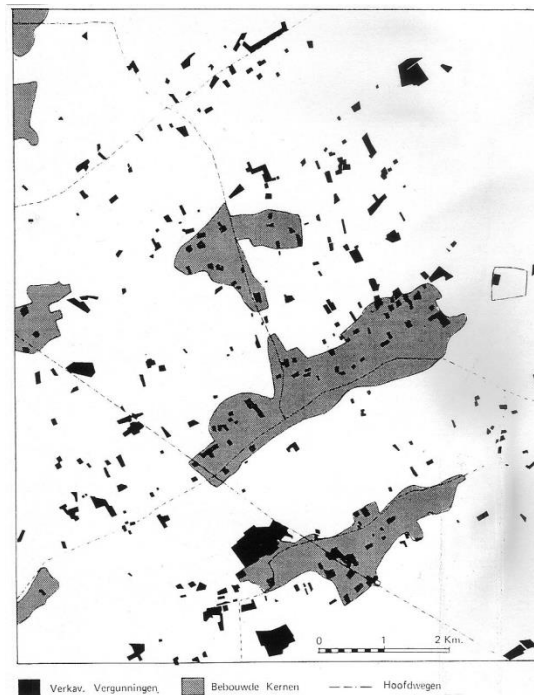
Figure 1: Spatial hierarchy of planning in Belgium



It is also important to note that all planning instruments that were introduced in this first Planning act took effect at the same time. This had some important consequences for the lowest (and more detailed) plans in the hierarchy (mostly building and parcelling permits), since there was no framework for assessment or evaluation available (or at least not yet). This explains the spatial fragmentation in Belgium, because as long as the subregional plans were not yet approved, all land was basically building land. This is shown on figure 2. The grey areas are the then existing building areas. The black spots are the parcelling permits granted in the first five years after the approval of the 1962 Spatial Planning Act. They are dispersed because of the absence of a review frame (a plan at a higher level). So nearly all parcelling requests had to be granted.



Figure 2: The location of the parcelling permits granted between 1962 and 1967



Source: Van Havre (1967)

Since the introduction of the first law on spatial planning in Belgium, some changes have been made. First of all, a new federal constitution was agreed upon, causing Belgium to evolve from a central state towards a new form of government in which Flanders, Wallonia and Brussels all received considerable autonomy (Albrechts, 1999). The three political regions received specific competences in the field of spatial planning in 1980. Since our cases can be situated in the Flemish region, we will focus solely on the further developments in Flanders. However, it is important to note that, partly due to path dependency, many of the spatial planning tools from the Spatial Planning act of 1962 are still present today. The new Flemish Spatial planning policy consisted of the Planning Act of 1996, the 'Structure Plan for Flanders' in 1997 and the Act on Spatial Planning of 1999. The idea was to simplify the planning process. In order to do so, structure plans, spatial development plans and regulations were drawn up on every policy level: Flemish, provincial and (sub) municipal.

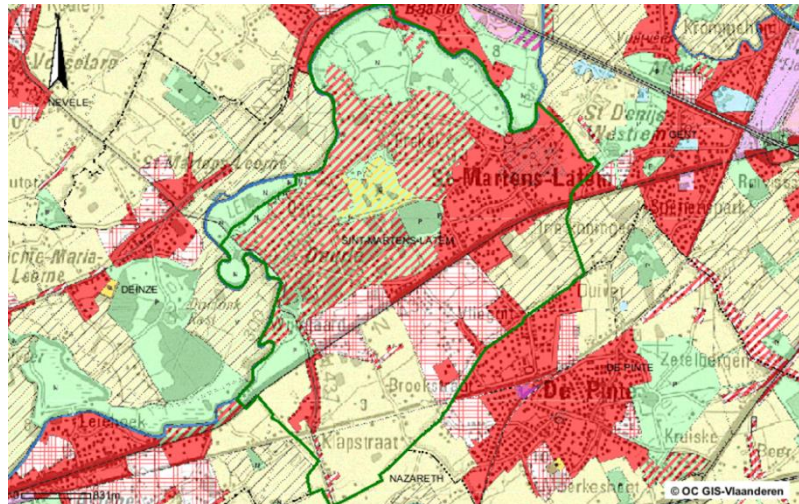
We can now ask ourselves what the organization of spatial planning in Belgium means for the resilience of the Belgian spatial structure. We will here give a brief overview of the ways we believe the spatial planning tools in Belgium may have an influence on its spatial resilience. We start from the assumption that resilient spaces are 'adaptable' and 'flexible'.

### Subregional plans

In 1966 48 subregional plans were drawn up that covered the entire country. Due to the fact that by that time most municipalities had not yet drawn up their own local plans, these subregional plans

had implications for both the regional and the local level. Since no national or regional plan existed, the subregional plans became the highest planning level in Belgium (Albrechts, 1999). With the introduction of the subregional plans every piece of land in Belgium got a fixed destination. This can be seen in figure 3. The red zones are the residential zones.

**Figure 3: Extract from one of the subregional plans in Flanders**



Source: GIS-Vlaanderen

When spatial planning became a competence of the regions in 1980, the goal was to create new subregional plans for the Flemish region. However this is a very complex, and often also very expensive, task. For example, when the department of spatial planning wants to change a plot's destination from 'residential zone' (high monetary value) into a zone for nature or agriculture (lower monetary value) a compensation will be needed.

The planning professionals in Flanders considered the subregional plans as very rigid and therefore advocated an early transition to structure planning. We however, do not completely share this view. There are areas within the subregional plans that are particularly inflexible. We think mainly about open space destinations (nature, agriculture). Because of the subregional plans hardly any buildings were erected outside the designated zones anymore (houses in nature areas for example). However, within the areas that are demarcated as residential areas, the subregional plans still offer a great amount of flexibility. There are of course all kinds of regulations, but in principle all functions that support housing (shops, day clinics, small businesses etc.) are allowed. Especially this last element is an important characteristic of the subregional plans in favour of resilience against demographic processes. After all, a changing population implies changing needs. These needs exist of changing housing needs (due to family expansion, ageing, ...) but also changing needs concerning leisure, basic facilities (bakery, post office), medical care, education, etc. We believe that the subregional plans encompass a certain degree of flexibility to deal with these changing demographic patterns and needs.

### **Specific Destination Plans (BPA's & RUP's):**

The specific destination plans (previously called BPA's, now RUP's) regulates the spatial planning of a specific area within a certain municipality. Generally these destination plans are very detailed and contain a lot of regulations. While the parcelling permits (see further) mostly regulate the housing function, the specific destination plans also regulate the mutual relations of the different functions: housing, work, leisure, schools, etc. Furthermore, the specific destination plans contain detailed regulations. This has some important consequences for the adaptability and flexibility of space, hence for its spatial resilience. Indeed, when an area is subject to a BPA or RUP, it is very difficult to achieve significant changes in land use. In order to change the spatial structure and its destination, a new specific destination plan is needed. This is a very long process where a long political and administrative procedure has to be followed (including public inquiry and a participation process of the higher authorities). Although the successor of the BPA, the RUP, was introduced to increase the flexibility in spatial planning, it does not seem to have succeeded in this. In general, we could conclude that when a subregional plan is overruled by a specific destination plan (BPA/RUP), the flexibility of spatial planning decreases.

### **Building & Parcelling Permits:**

A building permit is needed for the construction of an individual building project, whereas a parcelling permit seeks to divide one or more pieces of land in multiple lots. A parcelling permit is always accompanied by a number of regulations that are valid for each lot within the allotment. The parcelling permit may apply to a very small project (division of one piece of land in two building plots) or to large housing developments (for hundreds of houses). Parcelling permits (plan + accompanying regulation) usually contain many details about the location of the house on the plot, the size of the construction (floor) space, the materials used, the kind of roof, palisade,... Furthermore, these regulations are hard to change, since for each change permission is needed from the (local) government. Also when more than half of the owners of the other plots (belonging to the same parcelling) file a complaint against the proposed change to the parcelling permit, the requested change will be refused. However, it is the Board of Mayor and Aldermen that has the final say<sup>1</sup>.

From this short overview it becomes clear that parcelling permits are very inflexible planning instruments that are hard to change. The fact that these permits can be found more in suburban and rural areas, for the simple reason that there is still more land to parcel out, means that these kind of planning instruments are especially a threat to the resilience of communities outside the cities, communities where the impact of an ageing population is often most strongly felt. We will elaborate on this more in the next section of this paper.

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<sup>1</sup> <http://www.ruimtelijkeordening.be/NL/Beleid/Vergunning/Verkavelen/Wijzigvergundeverkaveling>

### 3. Increasing the resilience of space towards demographic changes

In the first two sections of this paper we have developed a new social scientific perspective on resilience and illustrated the way spatial planning in Flanders is organized. In this part of the paper we will briefly explore the way spatial planning methods in Flanders are contributing to, or hindering, resilient spaces and communities. We focus consecutively on migration and ageing.

#### Case 1: Migration

To explore the way the spatial planning instruments have an influence on the resilience against migration, we have selected the migrant neighbourhood Antwerpen-Noord in the city of Antwerp, Belgium. Antwerpen Noord is a neighbourhood situated to the North of the Antwerp historic city centre (see Figure 4).

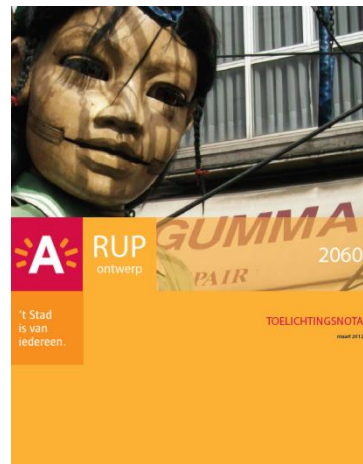
Figure 4: Situating Antwerpen-Noord (Antwerp 2060)



Antwerpen Noord is a densely populated (13.558 inhabitants per square kilometre) and deprived neighbourhood. The average socio-economic profile of its inhabitants is low. In 2009, 16,3% of its population was unemployed as compared to 9,8% in the city as a whole. The mean net taxable income per capita in the neighbourhood was 9.988 Euro, while it was 14.350 Euro in the whole city. The neighbourhood attracts a lot of newcomers to the city. From the 32.678 newcomers to Antwerp in 2011, almost one in six (5.237) arrive in Antwerpen Noord, rising to one fourth for the non EU arrivals in Antwerp (or 2.521 out of 10.467 non-EU arrivals). The neighbourhood is quite centrally located, adjacent to the main railway station, and hosts many local public services, ethnic associations and shops and a large new park (Park Spoor Noord), which attracts visitors from all over the city. Antwerpen Noord provides (comparatively) cheap housing and commercial property.

In 2012, the city's spatial planning department developed a 'spatial destination plan' (RUP) for the area in support of its urban revitalization (see figure 5). This plan was rather unique in the sense that it was based on an elaborate participation process of local inhabitants, paying special attention to groups easily excluded from these participation exercises (e.g. migrant women) (Apostel, 2011). Resulting from this participation process, a vision was formulated for the neighbourhood, describing the area as a neighbourhood of arrival and encounter, but also as neighbourhood where people live their lives (Bedrijfseenheid Stadsontwikkeling, 2012).

Figure 5: RUP 2060



The Spatial destination Plan 2060 (RUP 2060 as it is called), is shaped by the idea that one needs to approach the area as an arrival neighbourhood and that its resilience is based on accepting and supporting this spatial function (Bedrijfseenheid Stadsontwikkeling, 2012). In this context, the spatial planner in question claimed that *“the less you lay down in regulations the better. You do not want to make too many rules. Out of enthusiasm you tend to impose a lot of rules, but this actually works counterproductive”*.

From the above statement it is clear that the spatial planning department of the city aimed to create a strategic and mostly flexible planning instrument that does not contain too many regulations. Indeed, when compared to previous versions of the spatial destination plans for the area (the BPA) the spatial destination plan 'RUP 2060' has a less rigid building code. For example, in the first version of the spatial plan for the area (BPA) from 2005 it was forbidden to use PVC-windows. However, the use of PVC by ethnic shopkeepers is understandable given that this is the cheapest option in combination with the low income of many inhabitants. This injunction was therefore erased in a later stage from the building code to take this specific characteristic of the neighbourhood in account. The predecessor of the current spatial destination plan also sought to reduce some 'unwanted' spatial mechanisms, such as *'the proliferation of image reducing shops and slum landlords'*<sup>2</sup>. With 'image reducing' shops the spatial planners of the BPA were referring to night shops, call shops, etc. These are shops that are mostly owned by migrants. The fact that they may serve the needs of (part of) the local population or may be an attempt of a social group that has less easy access to the formal labour market to make a living is not taken into account. The current spatial destination plan (RUP 2060) on

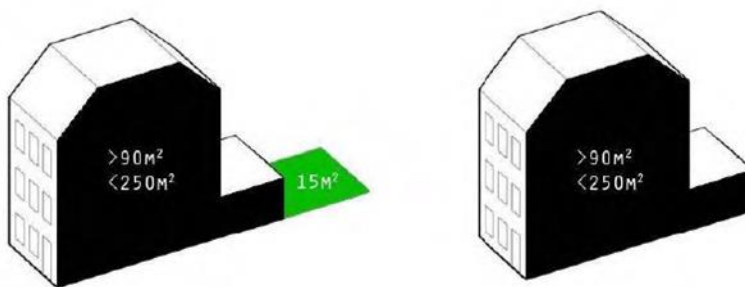
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<sup>2</sup> [www.antwerpen.be](http://www.antwerpen.be)

the contrary, acknowledges the importance of entrepreneurship in the area and wants to protect the local businesses in the area.

However, when taking a closer look the current spatial destination plan (RUP 2060) is less flexible than it claims to be and does not always contribute to the neighbourhood's resilience. We will illustrate this with two examples. The first basic premise of the RUP is to preserve the diversity of housing types within the neighbourhood. The RUP wants to formulate an answer to the *"increasing trend of improper housing"* (RUP - Explanatory note, p 11.). In concrete terms it is about protecting the one family home and about a tightening of the Building Code in relation to the other neighbourhoods of the city of Antwerp. The Building Code of the city of Antwerp prescribes that a house between 90 and 250 m<sup>2</sup> with a garden with a minimum of 15 m<sup>2</sup> must not be divided. For the spatial destination plan 'RUP 2060' this additional requirement expires and each house between 90 and 250 m<sup>2</sup> should not be divided, regardless of the presence of a garden (see figure 6).

**Figure 6: Regulations concerning the subdivision of one family homes City of Antwerp vs. neighbourhood Antwerpen-Noord (as prescribed in its spatial destination plan RUP 2060)**



**Left: Protecting the one family home according to the Building Code of the city of Antwerp  
Right: Protecting the one family home according the spatial destination plan 'RUP 2060':**

This measure rather seems to threaten the function of arrival neighbourhood, instead of offering opportunities. A wide range of small (and hence cheaper) housing types (studios, etc.) are crucial to the success of an arrival area. The spatial planner responsible for the Spatial Implementation Plan 2060 says herself: *"That [measure] is clearly to attract more whites. Maybe that creates gentrification. I am scared of that."*

A second example where spatial planning tools seem to decrease, rather than increase the resilience of the neighbourhood consists of the location policy for trade and the hotel and catering industry in the spatial destination plan (RUP 2060). This location policy is the second basis premise of the RUP. Following the BPA, the RUP demarcates residential streets (where commerce and trade is prohibited, with the exception of the corner buildings) and commercial streets. The goal of this measure is to protect the residential function of the area. The third basis premise of the RUP, however, wants to protect the local economy in the neighbourhood by safeguarding the licensed warehouses and provide for a sufficient amount of commercial streets. The second and third principle seem to conflict. On the one hand the RUP wants to protect the commercial function, but on the other hand it strongly regulates the choice of location. This last regulation makes it very hard for (potential)

entrepreneurs in the neighbourhood to start a business in their own house for example. After all, opening a business on the ground floor of the house in which one lives is a widely used practice in the arrival area. Moreover, shops and small businesses in arrival neighbourhoods do not only fulfil a commercial function, they are also often places of encounter for newly arrived migrants.

To conclude it seems that the spatial destination plan for the neighbourhood Antwerpen-Noord departs from two conflicting visions. The first is the protection of the arrival function of the neighbourhood, the other (more unspoken) premise is the attraction of (white) middle-class families to the neighbourhood. Even though these premises do not necessarily need to conflict, the accompanying spatial measures are certainly not in favour of the new migrants that arrive in the neighbourhood. In this sense the RUP creates more rigidity than it claims to and does not always contribute to the neighbourhood's resilience towards migration.

## **Case 2: Ageing**

Data and maps have shown that ageing in Flanders most strongly occurs outside the main cities<sup>3</sup> (Schillebeeckx, Oosterlynck, & De Decker, 2014). To explore the way the spatial planning instruments have an influence on resilience against ageing, we will therefore focus on the case of rural and suburban ageing in the Flemish region.

Both on the countryside and in urban areas the elderly want to continue living in their own home and living environment as long as possible. This wish was frequently described in the literature and is known under the name 'Ageing in Place'. Research also shows that as one gets older, the neighbourhood gains in importance (Buffel, Demeere, De Donder, & Verté, 2011; Buffel et al., 2014). The fact that most of the seniors do not want to move when they become older and (might) lose some of their independence, has some important consequences. First of all Belgium is characterized by sprawl, causing many families to live in remote, usually mono-functional and residential areas (De Decker, Meeus, Schillebeeckx, & Oosterlynck, 2013). The houses are in general quite large and often not adapted to the needs of people that are becoming less mobile. Second, the fact that many families live in mono-functional residential neighbourhoods often means they are highly dependent on their car for basic needs and facilities such as groceries, leisure, medical care, schools, social activities etc. When their mobility decreases, as well as their ability to drive the car, these basic services (most often groceries and care) need to be delivered at home. The policy concerning ageing in Flanders tends to support the concept of 'ageing in place' and proposes strategies that support the wish of the elderly to stay in their own home (or neighbourhood) as long as possible.

The question we would like to focus on now is the role of spatial planning instruments in the above mentioned spatial problems that we can summarize as (1) the inadequacy of the house and (2) the unsuitable location of the house when it comes to proximity to basic services.

Every piece of land in Flanders receives a fixed destination (residential, agricultural, industrial ...) in its corresponding subregional plan. However, as mentioned earlier (see §2) many houses in suburban

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<sup>3</sup> This is partly due to the post-war baby boom generation. Surfing on the virtues of the post-war economic growth and benefitting from the advantages of the welfare state arrangements, this generation could afford to become homeowner through the construction of new private suburban houses (Kesteloot, 2005).



and rural areas are part of a parcelling permit, due to the fact that there is still more land to parcel out. In order to explore the possibilities, or threats, the parcelling permits offer we will focus on the possible solutions to the above mentioned spatial problems.

First we will discuss the inadequacy of the house. In order to age qualitatively there is the possibility of adaptations to the house. This can be simple measures such as moving the bed room to the ground floor, eliminating barriers, but also more drastic changes such as creating a two-family home where the children or another young(er) couple can live for mutual support (e.g. kangaroo housing). However, whereas the first two changes might still be possible within the regulations linked to the parcelling permit, the second option will not be permitted. The question is of course also if the residents in those residential neighbourhoods are ready for concepts of co-housing or a subdivision of their own house. A study about the re-use of the existing housing stock in the residential neighbourhoods from the 1960's until the 1980's, partly based on interviews with real estate brokers revealed that the general public is not (yet) open to the idea (Cneut et al., 2007; Bervoets, 2014).

The second spatial problem we identified is the unsuitable location of the (rural or suburban) houses when it comes to proximity to basic services. The solution that the government is pursuing at the moment is bringing care to the individual homes. However, these kind of mono-function residential neighbourhoods tend to increase the spatial and social isolation of the elderly. When it comes to the needs of the seniors, implantation of care facilities, a community centre,... are very high on the priority list. Again, this is often hampered by parcelling permits that do not allow other functions than housing. Additional, there is a growing awareness in Flanders amongst spatial planners that densification is needed. Compact houses may offer a solution for older people living in way too large houses that are heavily underused. Think about service flats, assisted living, ... but also about apartments that are more centrally located than most of the large houses in the suburbs. However, this type of more compact housing is still rather scarce in suburban areas. The following quote from a realtor in Keerbergen (a rich suburban Flemish town) illustrates this:

*"If there were more apartments in this region, the circulation [of residents moving to another type of house] would go faster. Many stay because they have no alternative. They lived here for a long time and most want to stay. And when they must move from a villa of 300 m<sup>2</sup> to an apartment of 100 m<sup>2</sup>, that is not possible. They need to move to Leuven or Mechelen, or abroad. There are not so many of those super-luxury apartments here" (Cneut et al. 2007, own translation)*

To be able to densify, the other owners of the lots within the same parcelling unit, need to give their consent. This is a very complex procedure which does not create flexibility, but rather stagnation. However, it is also important to note that densification is a very sensitive topic in Flanders and that most residents do not welcome apartments in their neighbourhood. This becomes clear from the following quote:

*"It is more than only the rules and the procedure. The people who are now living on about 1.000 m<sup>2</sup> came to live there for the sake of the open or semi-detached houses. To be able to integrate apartments in those areas in an acceptable way is not so simple. People just do not accept that. But admittedly, it happens already. They [property developers] are able to avoid*



*the reaction [protest] of the neighbours through the method of construction."* (Cneut et al. 2007, own translation)

To conclude it seems that parcelling permits are often an obstacle to the resilience of an ageing community. Implantation of non-residential functions (e.g. health care) or adaptation to the built environment is hardly feasible. The parcelling permits also impede the creation of creative solutions (multigenerational co-housing or forms of co-housing with other ageing peers). This is of course not only due to the regulations of the parcelling permit itself but also to the complex procedure that needs to be followed when changes are to be made. For every change, the neighbours need to agree and since densification is mostly shunned, a change is not easily achieved.

#### 4. Discussion

In this paper we developed a critical analysis of the concept of resilience and used this analysis as our theoretical framework to study the link between spatial planning tools and socio-demographic changes. We have shown that there is a conceptual confusion due to the ecological roots of resilience. What is valid for the world of plants and animals is not necessarily valid for human beings. Additionally, it has been argued that the use of the concept of resilience for the study of socio-spatial processes is problematic when the asymmetric power relations and the uneven spread of resources across space are overlooked. Moreover resilience policies are defined top-down by imposing targets on local communities and tend to shift the responsibility for possible risks from the state to the individual and local level. On the basis of the critique we have proposed a socio-spatial redefinition of the concept of resilience.

In the second section of this paper we gave a short overview of the spatial planning instruments in Belgium and explored their capability to increase or decrease spatial resilience in the Flemish region. It became clear that there is an important difference between the subregional plans (mainly land zoning planning practice) and the planning tools at a lower level: the Spatial destination plans and the Building and Parcelling Permits. Whereas the first surprisingly provides quite a lot of flexibility, the latter impose too many and too strict regulations that do not allow a lot of adaptations and are difficult to change.

Focusing on the resilience of the Flemish region against the socio-demographic processes migration and ageing, we explored the spatial planning tools in practice through the cases of the migrant neighbourhood Antwerpen-Noord and ageing in suburban and rural Flemish municipalities. In our first explorative case about migration we have shown that the implementation of a spatial destination plan (first the BPA, later on the RUP) for the neighbourhood Antwerpen-Noord arose from the idea that certain undesirable spatial mechanisms needed to be reduced or at least made more controllable. However, the regulations that came with it, created a less flexible framework to work with. Furthermore, the RUP did not seem to have the desirable outcome in the sense that the function of arrival neighbourhood and the local economy were not completely protected. Our second case started from the acknowledgment that there are two main spatial problems relating to ageing in suburban Flanders: the inadequacy of the house and the unsuitable location of the house when it comes to proximity to basic services. The spatial planning tool that has the most influence in most suburban areas is the parcelling permit. The case has briefly shown that implantation of non-residential functions (e.g. health care) or adaptation to the built environment is hardly feasible when parcelling permits apply. From the above it seems that parcelling permits are often an obstacle to the needs of the elderly. However we have also seen that this is partly due to the fact that most residents are opposed to densification and hence block any change to the parcelling permits.

On the basis of both cases, it was shown that spatial planning instruments that tend to impose too much rules and have a small degree of flexibility and adaptability, often undermine a neighbourhood's resilience for socio-demographic processes such as ageing and migration. Even though subregional plans were often criticized for its strong 'zoning' of space and rigidity, it allows for rather fast responses to changing demographic needs. From this we could state that it might be interesting to experiment more with what we could call 'Regulation Freedom Zones'<sup>4</sup> However, this

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<sup>4</sup> Analogue to the 'Economy Freedom zones' in the US : areas of reduced taxes.

does not mean that the government should refrain itself from intervening. On the contrary, government involvement is required to invest in basic qualities and needs, such as qualitative education, health care, housing, community centres etc. Further research could focus on the question what kind of spatial planning instruments are needed in order to be able to respond to changing demographic processes? What kind of tools can we develop that guarantee spatial quality but also allow for flexibility and adaptability?

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