CATCHING people?

How to deal with shrinkage at the Dutch countryside
COLOPHON

Thesis Catching People

Urban Regeneration Graduation Lab MSc 3
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How to deal with shrinkage at the Dutch countryside

Michiel T.A. Baltus
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1. INTRODUCTION

1.1 Setting the scene

It is the worst nightmare of many politicians, policy makers and (urban) planners; endless rows of boarded-up houses, vacant stores, deserted industrial areas and deteriorated buildings. These kinds of images are associated with the effects of shrinkage. Many areas abroad are facing with a huge amount of decline of the population. Former mining cities in Northeast-England, old industrial cities in the ‘rustbelt’ of the United States, the east of Germany and the small villages on the French countryside. In all these cases people have left the area because of the collapsing main economy of the region.

In the Netherlands some areas and cities already experience a decline of the population. Regional prognosis of the Centraal Bureau voor de Statistiek (CBS; in English: Central Office for Statistics) and the Ruimtelijk Planbureau (RPB; in English: Spatial Planning Office) indicates that the shrinkage will maintain in the shrinking areas (Northeast Groningen, Zuid-Limburg and Zeeuws-Vlaanderen) and that other areas will have to face the shrinkage. In 2035 the Netherlands will have to face a decline of the general population. This raises the question what kind of implications shrinkage will have in the Netherlands. The images of abroad are still fresh and this kind of images have to be prevented. Therefore a clear analysis of the implications of shrinkage within the Netherlands has to be made. This will give new insights into the process and implications of shrinkage, on which new spatial interventions and strategies can be developed.

Contemporary policies however are still focused on growth. Governmental policies like the Structuurvisie Randstad 2040 are only focusing on the growth of the housing stock. Before 2040...
500,000 dwellings have to be built within the Randstad (VROM, 2008). Although in the Randstad the need for new dwellings is relatively high, other areas within the Netherlands are already facing a decline in the amount of households. This raises the question what the impacts of shrinkage will be on the existing urban fabric and society. The image of shrinkage is not very common in modern society (Derks et al., 2006). For over 200 years the primary process that got attention was the expansion of the urban fabric and how the growth of cities was manageable. Therefore this trend of shrinkage will cause all kinds of problems which are relatively new. All kinds of social, physical and economic problems will be inflicted and we don’t have the right tools and strategies. Besides the new problem shrinkage will inflict, the contrast between the Randstad and the rural regions will only be increased by this process.

1.2 Shrinkage is already happening

The case of shrinking cities has already drawn the attention of policy makers, urban planners and researchers. Initiatives like ‘The Shrinking Cities’ first initiated by Oswalt and Rieniets already tries to deal with shrinkage on the scale of a city. The aim of this study is to emphasize the opportunities shrinkage offers to the urban fabric and society. However shrinkage on a regional or even a national scale is still relatively unknown and unnoticed. In the Netherlands the shrinkage on a higher scale is currently getting more and more attention. One of the main problems of shrinkage is still the image. Shrinkage is still associated with a decrease of the living quality (Derks et al., 2006). This image has to be changed into the opportunities shrinkage holds within. Shrinkage can be the opportunity to
improve the living quality in these shrinking areas. In order to turn this negative image into a positive image we have to rethink our current ways of urban planning. Spatial interventions have to be focused on specific qualities of each region. By using their own specific quality, regions are able to benefit from the different strengths of the specific region.

The focus of the thesis is on the demographic and spatial elements of shrinkage. Many of these elements initiate processes which are also occurring on a national level, but these are magnified in rural areas. For example, the ageing of the population is taking place within many areas of the Netherlands. However the rural areas will experience the most trouble of this process (PBL, 2010). Within the next 30 year this trend will peak and the consequences this process will have on the urban fabric, have to be taken care of (PBL, 2010). For example, the need for different facilities within a close range will get stronger, but also the housing typology has to change. This trend will subside after this 30 years so the effects on the urban fabric are still temporarily, which makes it difficult to plan for (PBL, 2010). The effects of the shrinkage on the urban fabric and society are the key elements in this thesis.

The research in this thesis starts with a broad scope and will zoom in until the project location. The project location should have different problems related to the demographic and spatial elements of shrinkage. Like mentioned before the areas of Northeast Groningen, Zuid-Limburg and Zeeuws-Vlaanderen already experience shrinkage (PBL, 2010). Each of these locations has different problems and causes of the shrinkage. In Groningen for example the economic element of the shrinkage is of great importance. The economic element however is not one of the main element shrinkage should have in this thesis. In Zuid-Limburg the economic element of shrinkage is present, but not dominant. Zuid-
Limburg is already experiencing shrinkage for quite some time and there are already some policies, interventions and strategies which are focused on shrinkage. Zeeuws-Vlaanderen however is not yet experiencing shrinkage, but as will be shown in chapter 7, shrinkage will take place within the next 30 years. Unlike the two other areas Zeeuws-Vlaanderen has a strong economic situation, so the shrinkage will only affect the demographic and the spatial elements. This makes the case of Zeeuws-Vlaanderen interesting for the research in this thesis.

This section discusses the way the thesis is build up. In the introduction the main problem of this thesis will be discussed. Different aspects and different consequences of shrinkage will be handled to place shrinkage within the current context. This is followed by the aims, the planning and the expected products. The relevance of the issue of shrinkage will be discussed in chapter 4. Both the social relevance and the academic relevance will be taken into consideration. In the chapter 5 the research question and the research subquestions are defined. Combined with the research questions the proposed methodology will be discussed.

Chapter 6 starts building the theoretical framework by answering the first research subquestion. First the phenomenon of shrinkage will be placed within the context, starting by placing shrinkage within its historical context. Different definitions of shrinkage within the existing literature will be used to define shrinkage which can be used in the rest of the thesis. After the definition the causes and the consequences should are listed which helps by analysing different areas. Finally the current policies should be reviewed concerning the issue of shrinkage. After the phenomenon of shrinkage, the issue of living quality will be discussed. This part is focused on the living quality which is related to the field of the urban planner. Chapter 6 will end with the relation between shrinkage and living quality. The aim of chapter 7 is to get a grip of the severity of shrinkage within the Dutch context and to analyse existing interventions and strategies. First the focus will be on a national case, but also an international case will be analysed. Besides the more general analysis of shrinking areas within the Netherlands, chapter 8 will focus on the project location Zeeuws-Vlaanderen. The area is more closely analysed to discover the current consequences and causes of shrinkage. These should help to define a vision for Zeeuws-Vlaanderen. In chapter 9 the focus will shift to the municipality of Sluis. The general vision of chapter 8 will be used to generate a more detailed vision for Sluis. One of the interventions implies a better connection between the different villages in the coastal area of the municipality Sluis. Chapter 10 will test the possibility of implementing a tramline connecting Breskens with Knokke. The next chapter will focus on implementing the different strategies and interventions on the scale of one of the villages, Cadzand-Bad. Finally the different interventions and strategies are evaluated and some more general recommendations will be given for the municipality of Sluis.
CHAPTER 2

PROBLEM FIELD
What is the problem?
Like mentioned in the introduction the main fear of shrinkage is the decay of entire cities as a direct result of the shrinkage. The severity of the consequences in the examples given in the introduction of the British, American and German former industrial cities are not likely to occur in the Netherlands. These consequences can however occur on a smaller scale. In order to anticipate to these consequences we first have to know what the problem of shrinkage is. Shrinkage, however, is a complicated process and can occur in different forms. Many people only think of the decline of population whenever shrinkage is mentioned. There are though different forms and combinations of different forms which can be defined as shrinkage. Besides the decline of population, there can be all kind of factors that can trigger shrinkage like economic decline, physical decline and changes in the population structure. For example, the population of an area can decline as a result of the decline of the household size. This means that the total amount of households is not declining, so the vacancy of buildings and dwelling will be minimal. The decline of the population can only be a result of selective migration, like the out-migration of families due to a lack of specific facilities. This will result in specific spatial consequences, like the vacancy of a specific type of dwellings and the lack of support for educational facilities.

All these different types of shrinkage have a variety of consequences. These consequences can be divided into three different categories; the social consequences, the economic consequences and the physical consequences. All these consequences are related to each other and are affecting each other. For example one of the economic consequences can be a decline of the amount of jobs. This can indirectly cause an out-migration of young people in search of job opportunities, which causes a change of the population structure. The economic consequences, however, are difficult to change or to influence by an urban planner. This is more depended on external factors like companies. The social consequences, however, are indirectly related to the field of the urban planners. Here one of the interesting elements is the decline of the living quality inflicted by shrinkage. The living quality, however, is hard to be measured and consists in most cases out of different subjective and ordinal data. An example of how the living quality can be measured is the amount of facilities and the quality of these facilities, more is discussed in section 6.3. The question is raised how shrinkage is causing a decline of the living quality and how this process can be stopped or even reversed by spatial interventions and strategies.

The physical consequences of shrinkage are the most interesting for an urban planner. These physical consequences can be divided, based on the scale, into two different categories. The first scale is dealing on the level of the city. On this city level physical consequences can be for example the perforation of the urban fabric by the demolishment of different buildings, leaving empty plots. This can have both a positive and a negative effect on the living quality. The empty plot can function as a public place within the urban fabric or the place stays without a function. However, whenever the urban regeneration is taken place, these kinds of plots have to be taken into consideration. The second scale is dealing on the level of a building(block). One of the consequences on this level is for example the decay of buildings. More on this matter will be discussed.
in section 6.2.

Besides the problems caused by the consequences of shrinkage, another big problem of shrinkage is the image it has. A great deal of the problem of shrinkage is the way how people are interpreting shrinkage. The current tendency of policy makers and urban planners is still focused on the idea of growth. In order to deal with shrinkage, urban restructuring should be based on realism, instead of ‘boom-town-hopes’ (Couch et al. 2005). Shrinkage can be the solution to solve different existing problems. The decreasing growth of the urban fabric can be positive for the surrounding ‘green’. The tendency of the population structure requires a combination of growth and shrinkage.
Currently there are some initiatives that deals with shrinkage on the scale of the city. This is the ‘Shrinking cities’ initiative from Philipp Oswalt and Tim Rieniets (Source: www.shrinkingcities.com)
CHAPTER 3

PROJECT AIMS,
What should the project achieve?

PROJECT PLANNING
What is the timeframe of the thesis?

&

INTENDED PRODUCTS
Which products are intended to be made?
3. Project Aims

3.1 The current field of work

Although the numbers clearly indicate that shrinkage is currently happening within the Netherlands, shrinkage is still a ‘blind spot’ in current policies (Derks et al, 2006). The main focus is still on growth. It seems like urban policy makers, private investors, planners and in some cases citizens think that growth means something positive and shrinkage is negative and frightening (Vliet, 2009). From an economic point of view this is often the case. If an area is not any longer profitable, investments are not made and investors cannot be found, resulting in a decline of the economic value of the region. The social point of view is also focused on the negative effects of shrinkage. People associates shrinkage with abandoned buildings, decay, closure of facilities and other effects which decrease the living quality.

This negative way of thinking results in a desperate attempt to counter the shrinkage. Different municipalities in the same declining regions are competing with each other to attract people and businesses. However, people are still not coming and the competition only enlarges the existing problems in these municipalities. Currently, the shrinkage is increasingly accepted and acknowledged.

However, acceptance should not be the final step of the way people are dealing with shrinkage. Despite this negative image, shrinkage could offer opportunities for adapting to the current needs of society and restructuring the city.
3.2 How to proceed?

The main concern policy makers and urban planners should have is the living quality that can be affected by this shrinking trend. This means that the current residents that are still living in the area are not forced to leave the area as a consequence of the shrinkage. In order to maintain the living quality or even have the opportunity to increase the living quality the project aims do develop tools and strategies that;
- collaboration between different stakeholders involved with the urban transformation process.
- uses the specific qualities of the area to reach urban distinctiveness
- use shrinkage as a tool to (re)create urban fabric.
- consists out of interventions of different scales varies from the regional to the building block level.

These regions should use their openness and tranquillity as an alternative for the Randstad. An overview of the different definitions can be found in figure 3.1.1.
3.3 Project Planning

In this section project planning is made. The different studies and analysis are placed within the timeframe of the MSC 3 and MSC 4.

What kind of spatial interventions and strategies are needed to use shrinkage for adapting facilities and buildings in Zeeuws-Vlaanderen to insure or improve the living quality?

General analysis the Netherlands

Current situation in the Netherlands considering shrinkage

Project definition + First concept

Building theoretical framework shrinkage & Living quality

Case studies national & international

Develop strategies and tools

Test Case

Tool and strategies for spatial interventions to use shrinkage to improve the living quality

P1

P2

P3

P4

P5
3.4 Intended products

In this section the intended products are listed. The products are placed within a certain time scheme, but there can be differed from this scheme.

**Main Research Question**

What kind of spatial interventions are needed to insure the living quality in Zeeuws-Vlaanderen and is it possible to improve the living quality?

**Review paper outline**
- Preliminary analysis of the Netherlands
- Preliminary thesis plan

**P1**

**Review paper**
- Analysis of the Netherlands
- Preliminary analysis of Zeeuws-Vlaanderen
- Thesis plan

**P2**

**Analysis of Zeeuws-Vlaanderen**
- Preliminary design proposal
- Preliminary strategies
- Preliminary thesis
- Theoretical framework living quality

**P3**

**Spatial interventions for using shrinkage**
- Design proposal
- Strategies
- Thesis

**P4**

**Testing spatial interventions**
- Thesis

**P5**
CHAPTER 4

RELEVANCE
Why should we pay attention to shrinkage?
4. Relevance

4.1 Social relevance

Shrinkage in rural regions directly affects the people who are living in these regions in different ways. The main problem of shrinkage is the decrease of the living quality in these areas. This can be noticed by three categories.

The first category is from a social point of view. By the changes of the population structure all kind of facilities have to be increased or decreased in size. The schools for example are too big for the amount of students which are attending these schools. This often results in a non-profitable situation, causing the closure of these facilities. But on the other hand the number of people in need of care is (going to be) increased. However the facilities nor the people to deal with this demand are not available.

The second category is from a physical point of view. The changes of the population structure often results in a relaxation of the housing market. On the one hand this means low housing prices which seem to be a positive trend in which people can easily afford to buy their own house. But on the other hand the people that are already own a house cannot make investments in their house resulting in bad maintenance and decay. If in many cases people want to sell their house, they are not able to sell it, resulting in vacancy of buildings or demolition, causing gaps in the urban fabric.

The third and final category is from an economic point of view. The changes of the population structure often results in a smaller work force. Companies have to adjust to this changing structure or else they cannot stay in the area, resulting in less job opportunities. But not only the inhabitants are affected by the shrinkage, also municipalities are directly affected by shrinkage. The financial resources of municipalities are closely connected to the population.
Currently shrinkage is still a kind of a ‘blind spot’ in the current policies and urban planning (Derks et al., 2006). Fuelled by the on-going growth of the population of the last 200 years policies should not be merely focusing on the possible growth of the population or the urban fabric. Shrinkage of the population or the urban fabric should also be taken into account. This means that shrinkage should get more attention within literature than it currently gets. Especially considering the fact that the current predictions of the UN states that most developed countries already have a kind of stable population state and that within the next 30 years most of these countries will have a shrinking population (UN Population Division, 2008).

Current policies and urban planning are not familiar with the phenomenon of shrinkage. Therefore new insights of shrinkage should be taken into account within the current theoretical framework. This thesis should provide some of these new insights and can act like an example how to deal with shrinkage in the future.

4.2 Academic relevance

International initiatives to deal with shrinkage (source image: http://www.aiany.org)
CHAPTER 5
RESEARCH QUESTIONS & METHODOLOGY
On what is the research focusing and how is this done?
5. Research questions

5.1 Main research question
What kind of spatial interventions and strategies are needed to use shrinkage for adapting facilities and buildings in Zeeuws-Vlaanderen to insure or improve the living quality?

5.2 Research subquestion

1. In what kind of way can living quality be affected by shrinkage?
   a. What is shrinkage?
      i. How can we place shrinkage within its historical context?
      ii. How can we define shrinkage?
      iii. Which factors will trigger shrinkage?
      iv. What are the consequences of shrinkage?
      v. How are policies concerning with shrinkage?
   b. How can we define living quality?
      i. What indicators for living quality can be determined?
      ii. What kind of resources can be defined?
      iii. How can we place living quality within its historical context?
   c. How does living quality interact with shrinkage?
      i. Which indicators and resources are affected by shrinkage?
      ii. Which indicators and resources can be used in the urban context?
      ii. Which indicators and resources can be influenced by urban planners?

2. How does shrinkage fits within the (inter)national context?
   a. In what kind of way does shrinkage occur currently within the Dutch context and what is the perspective of shrinkage within this Dutch context?
   b. What kind of interventions or strategies did the national cases applied to use shrinkage?
   c. What kind of interventions or strategies did other international cases applied to use shrinkage?

3. How can we use shrinkage to develop spatial interventions and strategies which can adapt to the specific needs of society over time?
   a. How does shrinkage fits within the context of Zeeuws-Vlaanderen?
      i. What factors are causing shrinkage in this area?
      ii. What kind of social, physical and economic problems are related to the shrinkage?
      iii. Are there any specific qualities of Zeeuws-Vlaanderen that can be used to improve the living quality?
      iv. What kind of policies, strategies or interventions regarding shrinkage are already applied in Zeeuws-Vlaanderen?
   b. Can we combine the specific qualities of Zeeuws-Vlaanderen with the changing needs of
society which are inflicted by the changing population structure?
c. How can we keep the living quality up for the small villages of Zeeuws-Vlaanderen?
d. Can we define building typologies/urban typologies which can anticipate to the different ‘peaks’ which occur in Zeeuws-Vlaanderen?
5.3 Methodology

In this chapter the methodology that is used in this thesis will be discussed using the research question as a framework. In order to be able to answer the research question different research subquestions are formulated. The structure of the sub research questions can be divided in four categories; What, Where, Who and How. The intention of each sub research question is described and for each of these research subquestions the methodology that should be used is described.

Intention and methodology research subquestion #1
Research subquestion #1 (In what kind of way is the living quality affected by shrinkage?) is used to define the theoretical framework of this thesis. The focus of this research subquestion will be on defining the different concepts of shrinkage and living quality. Different elements, like the definitions, the causes and the consequences, will be researched and will be used in the rest of the thesis. In order to research this elements research subquestion is divided into three different questions;

a. What is shrinkage? => Research the phenomenon of shrinkage. The history, definition, causes, consequences and the current position within the current policies should be explained and analysed.
b. How can we define living quality? => Find criteria on which living quality can be measured.
c. Which indicators and resources are relevant in this thesis? => Connects the two concepts of shrinkage and living quality with each other and which are relevant for this thesis.

By answering all these questions the theoretical framework is set. In order to answer this questions the main focus will be on literature. Although literature on the subject of shrinkage is rather slim, there are some sources which deal with the shrinkage on the scale of the city. A good example of this scope is the ‘Shrinking Cities’ initiative from Oswalt and Rieniets. Living quality should be narrowed down to the scope to the urban context. Different methods and measuring systems are already used by different actors, thus the focus is to filter the right methods and measuring systems which can be used in the thesis.

Intention and methodology research subquestion #2
Research subquestion #2 (How does shrinkage fits within the (inter)national context?) is used to explain on which scale the shrinkage is happening. The Netherlands will be analysed by using the definitions of shrinkage from research subquestion #1. This will give a perspective of the severity of the current problems, but also a perspective of the scale of the problems which we will have to face within the next 30 years. Current interventions and strategies will be analysed to know how other national and international cases reacted on shrinkage. Therefore the following questions are defined;

a. In what kind of way does shrinkage occur currently within the Dutch context and what is the perspective of shrinkage within this Dutch context?
b. What kind of interventions or strategies did the national cases applied to use shrinkage?
c. What kind of interventions or strategies did other international cases applied to use shrinkage?
In order to answer these questions different types of analysis have to be used. Some data analysis and demographic will be used to define the shrinking areas, but also spatial analysis should be used to define the consequences of shrinkage on the urban fabric. To define interventions and strategies which international cases already made, a case study should be made. These case studies should focus on accepting the shrinkage and trying to deal with the consequences of the shrinkage. Therefore the case study should be done within the German context. German cities were also facing shrinkage and instead of trying to turn the shrinkage into growth, like many English and American cities tried, they dealt with the consequences. The case study should be focussed on the tools and strategies used in these German cities to maintain the living quality and to deal with the physical and spatial consequences.

Methodology Sub research question #3
Sub research question #3 (How can we use shrinkage to develop spatial interventions and strategies which can adapt to the specific needs of society over time?) is focussed on the design part of the thesis and should give solutions to the problems caused by shrinkage. One of the main topics is the changing population structure in these areas. The consequences of this structure change, social, economic, physical and spatial, should be solved by different interventions and strategies.
   a. How does shrinkage fits within the context of Zeeuws-Vlaanderen?
   b. Can we combine the seasonal character of Zeeuws-Vlaanderen with the changing needs of society which are inflicted by the changing population structure?
   c. How can we keep facilities accessible for the small villages of Zeeuws-Vlaanderen?
   d. Can we define building typologies/urban typologies which can adapt to the different ‘peaks’ which occur in Zeeuws-Vlaanderen?
This part is mainly answered by the combination of analysis and design. By using the different results of the previous research subquestions different interventions and strategies can be developed to use shrinkage.
### Atlas of Zeeuws-Vlaanderen
- Define the spatial features of the area

### Shrinkage in Zeeuws-Vlaanderen
- Dealing with the changes in the social structure of the area

### Analytical tool living quality
- Measuring the living quality in the different villages

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### Perspective
- Feasibility
- *ex ante evaluation*

### Objectives
- Mixed scanning
- Projects

### Implementation
- *ex post research*
- Monitoring

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**Figure 5.1 Theoretical framework**
WHAT?
What is shrinkage and living quality?

1.a. What is shrinkage?
   i. How can we place shrinkage within its historical context?
   ii. How can we define shrinkage?
   iii. Which factors will trigger shrinkage?
   iv. What are the consequences of shrinkage?
   v. How are policies concerning with shrinkage?

b. How can we define living quality?
   i. What indicators for living quality can be determined and what kind of resources can be defined?
   ii. How can we place living quality within its historical context?

c. Which indicators and resources are relevant in this thesis?
   i. Which indicators and resources can be used in the urban context?
   ii. Which indicators and resources are affected by shrinkage?
   ii. Which indicators and resources can be changed by urban planners?
6. In what kind of way is the living quality affected by shrinkage?

6.1 What to do next
The next step that has to be taken, is defining the main concepts of this thesis and by doing this, building the theoretical framework used in this thesis. The main concept is shrinkage, but this is closely interwoven with the decline of the living quality that a direct result of the shrinkage is. This chapter uses the research subquestion #1 and the scheme used in chapter 3, see figure 3.2.1 or a detailed overview in figure 6.1.1. The same scheme, see figure 3.2.1, can be used to define the theoretical framework of living quality. The main aim of the living quality section is to define indicators on which living quality can be measured but also define indicators which can be influenced by urban planners. The indicators of the living quality should also help define the consequences of shrinkage.

6.2 What is shrinkage?
First a quick tour through history is made to place shrinkage in the historical context. The next step is to make a clear definition of shrinkage. By using different definitions from different authors the definition of shrinkage that is used in this thesis can be made. This enables us to define whether an area is shrinking or not. After defining shrinkage the factors that are triggering the shrinkage should be made clear. This will give more insight in the process of shrinkage and how this process can be influenced. After the overview of the triggers the consequences of shrinkage have to be mapped. By mapping these consequences the general implications of shrinkage have to be clear. The final step will consist out of the position shrinkage is taking in the current policies and urban planning. As mentioned before the current position towards shrinkage is still in many cases that they are still fighting the shrinkage. In some cases they are accepting the shrinkage, but they do not (yet) see shrinkage as an opportunity. Shrinkage can be a tool to cope with the current problems that are already occurring in these areas.
6.2.1 Shrinkage is not completely new

According to the general opinion shrinkage is a new phenomenon; however growth and shrinkage were very common processes in history. In Europe the shrinkage of cities and regions was a phenomenon which was very common until the beginning of the nineteenth century. Since the nineteenth century however different triggers caused only growth and they no longer experienced shrinkage. One of the biggest trigger was the industrial revolution, causing people to migrate towards the city in search of job. After cities in England and Wales started this revolution, other big European cities followed this revolution resulting in the fact that cities were facing intense growth during the nineteenth century, multiplying their population within a few decades. Berlin’s population, for example, increased six times over between 1850 and 1900 and London’s grew by over four million in the same period (Rieniets, 2006,). Besides the increase of the total world population, the industrial revolution also resulted in a change of the population distribution. During the beginning of the nineteenth century only 2 percent of the total world population lived in an urbanized area. At the end of the nineteenth century this percentage grew already to 14 percent, see graph 6.2.1 (Oswalt and Rieniets, 2006).

![Graph 6.2.1; History and prognosis of world population](image)

Adapted by author. Source: Oswalt and Rieniets, 2006, p. 15
The massive growth of cities ended with the beginning of the World Wars. After the Second World War cities were able, with the Marshall Aid, to reconstruct the majority of their buildings. However, a new phenomenon was introduced in Europe. In the United States a new prototype for western urban planning had emerged, the suburbia. With the ability of car ownership people preferred to live just outside the city (Eisinger, 2006). The process of suburbanization was only increased by the post-war trend of the de-industrialization. Massive losses of jobs were caused by the closure, modernization or relocation of production locations. One in every three former industrial cities in the United States, Great Britain, Germany, Italy, France and Japan are facing with shrinkage (Oswalt and Rieniets, 2006). While the Western industrialized cities are dealing with shrinkage, the less developed countries are facing with a growing urban population. In Latin America and Asia the last fifty year showed a remarkable rate of urbanization (Eisinger, 2006). However, the department Population division of the UN (2008) has estimated that after 2030 the population in these countries will face a neutral population balance and urban growth will come to a close.

Adapted by author. Source: Van den Berg, 1982, p. 37
In the Netherlands however the shrinkage of the population from the rural area can be traced back to the beginning of the seventeenth century. During this period the economy flourished caused by the trading activities of the VOC. This triggered people from the rural area to move towards big cities in the west of the Netherlands, like Amsterdam, in the hope to get a job. After this first wave of migration the balance between the population in the cities and the rural area was back to steady state until the industrial revolution triggered a second big wave of movement towards the urbanized areas. Compared to other countries in Europe, the Netherlands was rather late with their industrial revolution. Major cities expansions like London did, were not the case in the Netherlands. However the suburbia trend of the 1960s was adopted from the United State. After the industry was build up again after the Second World War, the housing program was not only situated in the big cities, but new locations near these cities were located for massive housing programs. This ultimately resulted in the creation of the Randstad, which consists out of four major cities, Amsterdam, Rotterdam, The Hague and Utrecht, and their surrounding suburbs. Van de Berg (1982) stated this was a part of the following process of urbanization, suburbanization, desurbanization and reurbanization. During the different stages in urban development each dominant process had its effect on the area, see graph 6.2.2. The area consists out of the following three parts;
- Core: area which contain the main activities.
- Ring: area surrounding the core area.
- FUR: the Functional Urban Region is the area where the contiguous and surrounding municipalities are closely related with each other (Van den Berg, 1982).

This interaction of population between different areas is also described by Sassen (1991). The growth of cities or areas rests on the shrinkage of others. The economic and social transformations therefore must be seen as the simultaneity of the opposites or in other words growth and shrinkage (Sassen, 1991). These processes of growth and shrinkage are therefore a closely interwoven process. In a later stadium graph 6.2.1 can be used to define in which stage of urban planning a specific area is.

As Sassen (1991) says, the growth of some cities very much rests on the shrinkage of other places. Therefore, the economic and social transformations must be seen as the simultaneity of the opposites: growth and shrinkage. It is necessary to understand growth and shrinkage as one closely interwoven process.

Shrinkage however was also an issue after the Second World War. While Europe was trying to recover from the war, the rural regions in the Netherlands could not keep up caused by all kinds of economic, demographic and social problems (Melis, 2010). The problems were noticeable in rural areas of Zeeland, North-Brabant, North-Limburg, and the northern part of the Netherlands, the Dutch government started to recognize the problems in these areas. The former Dutch minister of Social Affairs, Willem Drees, initiated the idea that on a national level the provincial prosperity should be in line with their needs (Janssen, 2006). The decline of the population was concerned as one of the main problems. For example during the period of 1949 until 1969 the population of North Groningen declined with an average of 4,8%, while the Dutch population increased with an average 12,8% in the same period. Kooij 1985, p. 95) mentioned that this process was caused by the industrialization and that it was inevitable. In many of these areas the job opportunity were decreased by the industrialization. For example many jobs in the agriculture sector were obsolete caused by the mechanization (Melis, 2010). The central government tried to stimulate
There are different ways to define shrinkage of a specific area. In a political-economic point of view a region is shrinking when the economy is declining. However, from the sociological and urban-planning point of view a region is shrinking when the population is declining (Andersen, 2005).

According to Oswalt and Rieniets cities are shrinking if the population has lost temporarily or permanently a significant number of their inhabitants; “Population losses are considered to be significant if they amount to a total of at least 10% or more than 1% annually” (2006, p. 156). In order to know whether a specific area is losing population the following formula can be used:

\[
Pt+1 = Pt + (B - D) + (I - E)
\]

Pt+1 = the amount of population on t+1  
Pt = the amount of population on t  
B = total amount of people borne during ‘1’ time span  
D = total amount of deaths during ‘1’ time span  
I = total amount of immigrants during ‘1’ time span  
E = total amount of emigrants during t time span

As shown in the formula population growth is influenced by four factors. The total amount of people that are borne and died cannot easily be managed, but the amount of immigrants and emigrants is dependent on different national policies.

In 1956 the Rijksdienst made a study of the West of the Netherlands and the remaining parts of the Netherlands. One of the outcomes of this report was the need to spread of economic developments and the related population spread in the Netherlands. By offering subsidies for companies, for example Phillips, when they settled in one of these regions, they tried to bring down the unemployment rate and indirectly the decline of the population. Nevertheless these areas were still vulnerable. Currently most of these companies have closed their facilities in these areas and moved them to low-wage countries.

6.2.2 How can we define shrinkage?

There are different ways to define shrinkage of a specific area. In a political-economic point of view a region is shrinking when the economy is declining. However, from the sociological and urban-planning point of view a region is shrinking when the population is declining (Andersen, 2005).

According to Oswalt and Rieniets cities are shrinking if the population has lost temporarily or permanently a significant number of their inhabitants; “Population losses are considered to be significant if they amount to a total of at least 10% or more than 1% annually” (2006, p. 156). In order to know whether a specific area is losing population the following formula can be used;
In the Netherlands data concerning the population growth can easily be found from the CBS. The CBS keeps track of this data on the scale of the municipality. Therefore the research concerning shrinking areas should first be done on the scale of the municipalities.

Oswalt and Rieniets only use the decline in population to determine if a city is shrinking or not. However, Hall defines that shrinkage can take place into two different forms. It can take form in demographic forces, like Oswalt and Rieniets also defined, or an economic decline. A combination of the two can also take place, whereas the two only enforce each other. Which is the primary force cannot be easily distinguished (Hall, 2006);

“Decline due to purely demographic forces, particularly diminishing birth rates, may directly lead to an economic downturn as the labor force and the market shrink. Conversely, economic decline due to the contraction of a basic industry, may lead to out-migration and population loss. In deed the two may operate in tandem, in a problematic feedback loop” (Hall, 2006, p. 144).

Van de Berg (1982) also points out the importance of economic shrinkage. After analysing the total employment change to the population change in different European countries van de Berg (1982, p. 75) stated; “These tendencies bear out how important a growing demand for labour is for the development of urban places”.

Also Hannemann (2003, p. 18-19) is emphasizing the process involved by exaggeration, speaking of ‘Deökonomisierung’ (the erosion of the economic base). This illustrates how important the economic aspects are for urban development. If one of the two is lacking behind, the other will be affected to.

The complexity of the economic situation and policies.

Shrinkage (according to Hall, 2006)

\[ \text{Shrinkage} = \text{population decline} + \text{economic decline} \]

“Economic decline is considered to be significant if the level of unemployment of a specific area is at least 1% higher than the national level the area.”

(Author)
the fact that a lot of factors are independent of the area makes it hard to determine economic decline. In order to determine whether an area suffers from economic decline the best criteria that can be used is the unemployment rate. Economic decline is considered to be significant if the level of unemployment of a specific area is at least 1% higher than the national level the area.

Besides the shrinkage referring to demographic changes and the economic changes, shrinkage of the total amount of households also can be a form of shrinkage. In many cases the population is already shrinking, but the total amount of households is still the same. If the amount of households is also shrinking new kind of problems will occur in this area. The decline of the total amount of households is also influenced by two factors. The first factor is the tendency of the population. This is therefore related to the growth of decline of the population discussed previously. The second factor is more related to social-cultural factors. Changes within society have caused a decline of the average household size. This still can cause a decline or growth of the total amount of households although there is no change in the population size.

In order to define a clear definition of the shrinkage of the total amount of households, the same definition Oswalt and Rieniets use for the shrinkage of the population can be used (2006); Household losses are considered to be significant if they amount to a total of at least 10% or more than 1% annually.

Concluding, there are three elements that can be defined as shrinkage. The area can have demographic changes that are causing shrinkage, economic decline that is causing shrinkage, the total amount of households is causing shrinkage.
or a combination of the three elements is causing shrinkage in the area. All these different types of shrinkage can be defined by different factors, see figure 6.2.1.1. By using the criteria an analysis can be made of the Netherlands to find the areas that are experiencing shrinkage.

Besides the general tendency of the population, there can also occur growth or decline of a specific group within society. In general shrinkage always occurs with this kind of selective growth or decline (van Dam, de Groot and Verwest, 2006).

Figure 6.2.1.1 Shrinkage can be defined as the combination of the population decline, economic decline and the decline of the total amount of households.
6.2.3 Which factors will trigger shrinkage?
In many cases there are specific factors which are bound to a specific location. However there are some factors that are common. Oswalt and Rieniets made four categories of these factors (2006);
- Loss; “The loss of resources like water or minerals or shortage of available energy can have long-term negative effects on the development of cities, even causing them to disappear. Long-term declines in employment opportunities or population can also have negative effects on urban development” (Oswalt and Rieniets, 2006, p. 65).
- Shifting; “Shifting the locations of settlements, residents, and economic activity causes geographical polarization between winners and losers” (Oswalt and Rieniets, 2006, p. 85).
- Change; “Long-term changes in economic, political, and demographic conditions have massive effects on the development of cities” (Oswalt and Rieniets, 2006, p. 107).

In the case of the Netherlands the first category ‘Destruction’ is not occurring. The other three categories are (partly) occurring. However there are also some factors that are specific for the shrinking areas. These factors will be discussed later on in the location section.

If we take a look to figure 6.2.1.1 we can already specify different causes of different types of shrinkage. The natural factor of the growth or decline of the population is largely dependent on the birth rate and the mortality rate. Initially the
birth rate controls is the base of the population structure. If the birth rate is high for a consecutive period of time, the population size will grow. If the birth rate is low, the population will start to shrink. The population will not directly start to shrink, but this will start after the first people before born during this low birth rate start to die. The birth rate is also closely related to the fertility rate, which is the average amount of children born per women. In order to maintain the population size this fertility rate has to be around the 2,1 in the more developed countries. In less developed countries this fertility rate has to be higher because of the higher mortality rates (Espenshade, Gusman and Westoff, 2003). Besides this natural factor, the birth rate is also related to cultural factors. One of these factors is the emancipation. Birth control and the participation of women in the work force already created a drop of the birth rate within the Dutch context (van Dam, de Groot and Verwest, 2006). But also the economic situation seems to have an influence on the birth rate (Latten and de Jong, 2005). The same can be mentioned for the mortality rate. Factors like the increase of the welfare and the healthcare resulted in a higher life expectancy. Combined with a low birth rate this will eventually result ageing of the population.

The cultural aspect of the tendency of the population is focused on the migration patterns of an area. The out-migration of a specific area is mainly caused by the ‘attractiveness’ of the area for a specific group within society (van Dam, de Groot and Verwest, 2006). Visser and van Dam (2006) defines different factors which contribute to ‘attractiveness’;
- Attractiveness of the area, where job opportunity is an important factor
- Attractiveness of the municipality, where the scale and the quality of the facilities are an important factor
- Attractiveness of the neighbourhood, where the social and physical aspects and the quality of the building stock are an important factor

Whenever attractiveness of an area is lacking in on or multiple points, the decision can be made to migrate. Besides the attractiveness there are three other motives which can cause migration (Priemus, 1984);
- the live-cycle of the household, for example the birth of children forces the need of different facilities
- changing needs related to the dwelling (CBS, 2005)
- the change of job or education (Rossi, 1955; Robson, 1975)

The first two motives are mainly causing a migration over a small distance, whereas changes of job or education is more likely causing migration over longer distances (CBS, 2005).
6.2.4 What are the consequences of shrinkage?
As mentioned before in the introduction the main consequences of shrinkage are brought back to a social, physical and economic point of view. Besides these in general negative effects, there are also some positive effects of shrinkage. These positive effects should also be described and should get more attention. These different consequences will differ for different actors. For example, the consequences of shrinkage in the field of urban planners are not physically noticeable. The main consequences for planners are the appropriateness of the planning tools and the shift in the focus of urban planning. After decades of using different tools to control the urban growth, other tools have to be developed to manage shrinkage and reduce the urban fabric in a controlled way (Weidner, 2006). The other actors have consequences and interests which can be noticed in the different categories. First we will discuss the social problems, placing shrinkage within the context of a small rural municipality. By trying to define the different consequences for individual groups within the society, an insight can be made. After the social aspect the consequences of physical decline are defined. These consequences are mainly related to the urban fabric and should be the most interesting for an urban planner. These problems are divided into two different categories; the physical and the spatial consequences. The physical consequences are related to a rather smaller scale than the spatial consequences. After the urban problems the consequences of the economic decline are defined place the consequences within the context. After all these ‘negative’ consequences some of the positive effects of shrinkage will be described. These positive effects of shrinkage can be used to form a base for urban planners to develop strategies and interventions to use the shrinkage instead of fighting the shrinkage.

Social point of view
The social problems which are caused by shrinkage are mainly related to the population and the change of the population structure. Cities have three main functions throughout history (Geruson and McGrath, 1977). The first function is the interactive function. Geruson and McGrath (1977 p. xiii) states; ‘As areas of population, cities provide the

<table>
<thead>
<tr>
<th>Different actors, different consequences</th>
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</thead>
<tbody>
<tr>
<td>POLITICAL AND ADMINISTRATIVE</td>
</tr>
<tr>
<td>- social problems</td>
</tr>
<tr>
<td>- facilities</td>
</tr>
<tr>
<td>- shops</td>
</tr>
<tr>
<td>- education</td>
</tr>
<tr>
<td>- daycare etc.</td>
</tr>
<tr>
<td>- library</td>
</tr>
<tr>
<td>- healthcare</td>
</tr>
<tr>
<td>- recreation</td>
</tr>
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<td>- sportclubs</td>
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<tr>
<td>- Horeca</td>
</tr>
<tr>
<td>- public transport</td>
</tr>
<tr>
<td>- physical problems</td>
</tr>
<tr>
<td>- oversized infrastructure</td>
</tr>
<tr>
<td>- building stock</td>
</tr>
<tr>
<td>- sewer systems, etc.</td>
</tr>
<tr>
<td>- roads, etc</td>
</tr>
<tr>
<td>- economic problems</td>
</tr>
<tr>
<td>- municipality budget</td>
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<tr>
<td>URBAN PLANNERS</td>
</tr>
<tr>
<td>- instruments</td>
</tr>
<tr>
<td>- tools</td>
</tr>
<tr>
<td>- shift of focus</td>
</tr>
<tr>
<td>MEDIA</td>
</tr>
<tr>
<td>- smaller workforce</td>
</tr>
<tr>
<td>- out-migration companies</td>
</tr>
</tbody>
</table>

Figure 6.2.4.1
opportunity for increased interaction among people, which promotes the development of new ideas and innovations’. The second function is the generative function. This means that the concentration and the increased interaction of population will result in an encouragement of the development or generation of new goods, technologies and services. The third and final function is the upgrading function. As Geruson and McGrath (1977, p. xiii) states; ‘Cities have historically provided more opportunities for an improved quality of life than was available in non-urban areas. The successful performance of the interactive and generative functions produces a greater range of employment and educational opportunities, as well as improved public services. This draws more migrants to the cities, which has an impact on the interactive and generative functions’. This third function is of great importance for shrinkage. This function can be implied in the reverse order for shrinkage. If the migrants are not drawn towards the area, but are leaving the area, the interactive and generative functions will lack in performance. The range of employment will drop, the educational opportunities will be less and the public services will have a lower quality. Without any spatial interventions the shrinkage will lead to a snowball effect which creates a very poor living quality.

Another important factor for the social problems is the population structure. The different social problems are closely connected to a specific group of the population. For example the number and quality of schools is of great importance for families with children which are attending these schools, but for people without children attending schools the lack of schools is not considered as a negative point. But also the age of the population have great influence on social problems. Young people and old people have a smaller mobility radius, so the facilities these people need has to be close by. In
They are still able to update their stock, but they will also have limited resources if they cannot sell the former rental dwellings. Finally the municipalities are generating a part of their budget by selling land to developers, profit capacity (in Dutch: verdiencapaciteit). Without this income municipalities will have less money to invest in facilities and the public space, which is affecting the urban context in spatial point of view. From a spatial point of view this relaxed housing market can lead to demolition or vacant buildings. The demolished buildings are not replaced by other functions or buildings, leaving vacant plots within the urban fabric. In many cases these plots are turned into various green spaces, although the expansion of the urban fabric was still going strong on the outskirts of the urban fabric (Köppen, 2005). Until recent, cities are getting more or less perforated instead of a governed contraction (Lütke Daldrup, 2001). This process is already happening resulting in strange places in the urban fabric. One of the examples of this type of perforation of the urban fabric is the case of Kerkrade. In this case the urban fabric is hollowed near a church in the Kampstraat in the western part of Kerkrade near Heerlen. The vacant dwelling behind the church is demolished, leaving an open plot near this central point within the urban fabric. The absence of a function for this plot resulted in a plot with only grass, see figure 6.2.4.2 and 6.2.4.3 on the next pages.

The problems related to a physical decline can be divided into physical problems on two different scales; the scale of the city and the scale of the building. Currently many areas have a sort of stabile state in the total amount of households or are still growing. Although there is still no shrinkage noticeable, there is also no growth. This stabile state will maintain until 2025 (Dijkstal and Mans, 2009) but after 2025 many areas have to start dealing with a decline in both the population and the total amount of households (Planbureau voor de leefomgeving, 2010). This stabile state, which will last until 2025, will already give problems which are relatively unknown. The lack of growth for a long period of time results in a housing market which will never stress. This seems like a positive effect, but this will result in a decline of the value of the dwelling, a longer period until the dwelling is sold, dwellings which are not easy to sell, vacancy of dwellings and impoverishment of dwellings. This will affect the investments of three different actors. Firstly, property owners are unable to use their extra value of their dwelling to make investments in their property. The same situation can be found for the

**Economic point of view**

The impacts of the shrinkage from an economic point of view can be noticed by both the inhabitants and the municipality. First the consequences for the inhabitants will be discussed and followed by the consequences for the municipalities.

From the point of view of the inhabitants the most problems from an economic point of view are related to the size of the work force. The ageing
of the population and the rural - urban migration of young people result in a smaller work force. As a result of the smaller work force companies are forced to choose one of the following strategies (Provincie Zeeland afdeling ruimte, 2008);
- Move out of the region
- Longer work times
- Invest to increase the productivity
- Attract employees from out of the region

The current economic recession affects the Dutch economy, but some regions are affected more than some others. The average economic decline is 4,5 percent, but the economic decline in Zeeland is with 6,5 percent well above this average (Jansen, 2009a). This is meanly caused by the fact that a large part of people work in the industry. This is one of the first economic branches where the impact of the global recession is noticed. The upside is that this is also one of the economic branches which are most likely to recover from the recession (Jansen, 2009b). This is one of the biggest problems of the current situation of the job-structure. There is no big diversity in jobs, resulting in a great dependency of the success of just one type of industry.

The assumption is easily made that shrinkage has a negative affect for the financial resources of municipalities. As shown in table 6.2.1 the payments are made based on the number of persons and households. However an article from Allers and Zeilstra states after researching different shrinking and growing municipalities that there is no concluding evidence in difference of the financial resource from governmental resources. There are no differences in the income, outcome and the financial reserves of the municipalities (Allers and Zeilstra, 2009). The main consequences of the economic decline therefore are related to employment.

### Table 6.2.4.2
Percentage of demographic related indicators of the distribution of the general payement for the municipality funds, 2008

<table>
<thead>
<tr>
<th>INDICATOR</th>
<th>UNIT</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social assistance recipients</td>
<td>P</td>
<td>5,0</td>
</tr>
<tr>
<td>ABW scale-disadvantage(^a)</td>
<td>P</td>
<td>0,2</td>
</tr>
<tr>
<td>ABW scale-advantage(^b)</td>
<td>P</td>
<td>4,9</td>
</tr>
<tr>
<td>Residents</td>
<td>P</td>
<td>21,6</td>
</tr>
<tr>
<td>Residents &lt; 20 years</td>
<td>P</td>
<td>8,9</td>
</tr>
<tr>
<td>Residents &gt; 64 years</td>
<td>P</td>
<td>2,0</td>
</tr>
<tr>
<td>Residents 75-85 years</td>
<td>P</td>
<td>0,2</td>
</tr>
<tr>
<td>Residents wadden</td>
<td>P</td>
<td>0,03</td>
</tr>
<tr>
<td>Minorities</td>
<td>P</td>
<td>3,7</td>
</tr>
<tr>
<td>Welfare recipients</td>
<td>P</td>
<td>1,4</td>
</tr>
<tr>
<td>Students high school</td>
<td>P</td>
<td>3,0</td>
</tr>
<tr>
<td>Students special education</td>
<td>P</td>
<td>1,2</td>
</tr>
<tr>
<td>One-parent-households</td>
<td>H</td>
<td>0,7</td>
</tr>
<tr>
<td>Low-income</td>
<td>H</td>
<td>1,9</td>
</tr>
<tr>
<td>Low-income border</td>
<td>H</td>
<td>5,1</td>
</tr>
<tr>
<td>Households</td>
<td>H</td>
<td>12,8</td>
</tr>
</tbody>
</table>

\(^{a}\) Defined as the number of people receiving social assistance divided by 350 plus the number of people receiving social assistance

\(^{b}\) Defined by the number of people receiving social assistance raised to the 0,87 power.

\(^{c}\) Defined by the number of households with a low income, if the total is more than 10% of the total amount of households

Adapted by author source: TvOF, 2009
Positive effects
Shrinkage does not have to be the worst case scenario, shrinkage can be an opportunity to develop new spatial strategies and interventions and will create possibilities for different actors. For example, the relaxation of the housing market offers new inhabitants, especially starters, a variety of dwellings. They can choose the dwelling that fits the best with their preferences. But there will also be vacancy of buildings in different areas and neighbourhoods. This will indicates the more valued and the less valued building typologies, which gives urban planners the opportunity to ‘erase the mistakes from the past’ and give the area their identity back. The demolition can create all kind of new urban spaces which can give more quality to the area by demolishing specific buildings.

However, the possible opportunities shrinkage can offer, are also bound to different choices of different actors. First policy makers are bound to the financial means which they have available for the demolition or regeneration of these buildings. The financial means depends on the central government and the grants the shrinking municipalities will receive. Also the housing associations are bound to the financial situation. The housing associations are bound to the ‘life expectancy’ of the buildings. If they start demolishing buildings which are not yet ‘paid off’, they start to destroy their investments.

Conclusions
The consequences of shrinkage are not only related to the decline of the population, but are also related to the changing population, the changing behaviour of different actors and the policies concerning these areas and shrinkage in general. Therefore the general discussion should not be merely focused on the decline of the population, but should take multiple factors into account. The spatial consequences of shrinkage (especially when the total amount of households is declining or the population structure is changing) will be demonstrated on the lower scale of neighbourhoods and villages and will especially affect the living quality (van Dam, de Groot and Verwest, 2006). This process can turn into a self-empowering process and can lead to selective out-migration of the area (Friedrichs, 1993; Grogan and Proscio, 2000; Jacobs, 1961). In these cases new spatial interventions and strategies are needed to break this process to ensure a decent level of living quality.
Currently there are some initiatives that deals with shrinkage on the scale of the city. This is the ‘Shrinking cities’ initiative from Philipp Oswalt and Tim Rieniets (Source: www.shrinkingcities.com)
6.2.5 What is the current view on shrinkage?
One of the biggest problems of the shrinkage is the current view people have of shrinkage. Shrinkage as a possible trend is not well recognized in the theory and policy practice (Bontje, 2004), but also as mentioned before people experience that shrinking is bad. This idea has to change and urban planners should focus on designing with shrinkage. This means for example that urban planners should focus on adapting the housing stock to the current needs without breaking the urban fabric. Instead this should be an opportunity to improve the urban fabric. This requires that urban planning should be based on realism instead of ‘boom-town-hopes’ (Couch et al., 2005).

Growth as the ideal situation of the urban fabric can be strongly connected to the privatization and liberalization during the 1990s. These processes fuelled the international competitiveness which resulted in a change of the cities into engines of economic growth (Jessop, 2004). This resulted in the current planning policies that are focused merely on growth. Rosemann (2006, p.14) puts it like; “Globalization is strengthening the competition between countries, regions, and cities”. This is also explaining the recent competition between the different municipalities. Instead of working together in order to deal with the shrinkage, municipalities are in stress of keeping up with continuous growth.

This is also reflected in the mind-set of the Dutch planning ever since the Nota Westen des Landes from 1953 (Salewski and Bodammer, 2008). After the Second World War the focus of the government was on the expansion of the housing stock and directly to the expansion of the urban fabric. Due to the ongoing growth of the population and the demand for housing, the pressure on the national government was enormous. This resulted in massive subsidies for the construction of dwellings. Besides these subsidies municipalities also had great benefits from the demand for new land for development. By the growing urban fabric developers were forced to buy land from the local governments. This is for these local governments the main financial source. The shrinkage is causing the lack of demand for this land for development which is causing the disappearance of the main financial source.

One of the first who introduced the idea of the potential shrinkage within the field of urban planning was Lynch. In his ‘Good City Form’ Lynch (1998) compared the urban fabric with a living organism. He stated that if a living organism is decreasing in its bulk, the organism is about to die. This same logic is used to define shrinkage of the urban fabric as threatening;

“All planners bewail decline. Our theories analyze growth, not loss. Yet, while rapid decline (like rapid growth) may be a catastrophe, there are values in a moderate, negative rate of growth, including such things as good access to an abundance of space and facilities, low stress, increased adaptability and control, and strong historical legibility (...)Could we plan for decline, to realize those values?” (Lynch, 1998).

However this logic can also be used to define shrinkage as an opportunity. If the assumption is made of urban fabric as a shrinking organism, shrinking can be a reaction on the changing context of the living environment. If this is reflected back to the urban fabric, shrinking is a reaction to the changes of the society and this should be the mechanism to ‘survive’ these changes of society. The focus should be on new dynamism in urban development and
this have to be emphasized (Akbar and Kremer, 2005). Korfmacher (2005) also emphasize that we should never be focused on continuous growth or on the on-going shrinkage. However, shrinkage should be included into the theory of future urban planning, like growth. The contemporary city can be seen under constant dynamic influences of both growth and shrinkage.

6.2.6 Conclusions and further steps
The process of shrinkage is very complicated and is interconnected. Whenever one of the elements of shrinkage is happening, the other two elements also will start to occur, see figure 6.2.6.1. If an area is experiencing shrinkage, it proves very difficult to know which of the element started the shrinkage. It is even harder to stop the shrinkage. This can also concluded from former policies which focused on stopping the shrinkage. Instead of try to stop the shrinkage the focus should be on counter the consequences of shrinkage. By trying to cope with the different consequences of shrinkage new opportunities are created to keep the living quality up. Even the opportunity can be created to improve the living quality in these areas and therefore create an alternative for the Randstad. In order to create these opportunities the definitions, causes and consequences should be used.

Definitions
The first category, see figure 6.1.1, that is important for the spatial interventions and strategies is the definition of shrinkage. Like mentioned before in section 6.2.2 we can define shrinkage by using the decline of the population, the economic decline and the decline of the total amount of households, see figure 6.2.6.2. These three definitions should give a clear indication whether an area is shrinking or not. Besides these definitions the fact that shrinkage occurs in most cases within one specific group of society has be kept in mind. These definitions will help pinpoint the type of shrinkage in Zeeuws-Vlaanderen, but will also give the context of the issue of shrinkage of the Netherlands. Shrinkage within the Netherlands is discussed in chapter 7 and is the focus of research subquestion #2.1

Causes
The second category, see figure 6.1.1, that can be defined are the causes of shrinkage. As discussed in section 6.2.3 there are 5 categories of factors, see figure 6.2.6.3, that possibly can trigger shrinkage. Each category has its own triggers that can cause shrinkage. By using this overview of factors of shrinkage on Zeeuws-Vlaanderen the different problems can be defined. This analysis is done is chapter 8 and is the main focus of research subquestion #3.a. By knowing the origin of the problems, the development of spatial interventions and strategies are better focused.

Consequences
The third category, see figure 6.1.1, that can be defined, are the consequences shrinkage have on the area. One of the important consequences is the decline in the living quality. In order to be able to evaluate the living quality before and after the intervention, some more research has to be done. In the next section, section 6.3, the main focus will be on defining living quality. The main goal is to define specify criteria on which living quality can be measured. In the last section of this chapter the connection between shrinkage and living quality will be analysed. Besides the issue of the living quality there are already some general problems defined,
DEFINITION OF SHRINKAGE

Population

Population losses are considered to be significant if they amount to a total of at least 10% or more than 1% annually.

Economic

A decline of the economic situation is hard to be measured. The unemployment rate can be used as a good indicator of the economic situation.

Household

A decline of households are considered to be significant if they amount to a total of at least 10% or more than 1% annually.

Figure 6.2.6.2 The definitions of shrinkage
Shrinkage within time

From a historical point of view and the current view of the policies concerning shrinkage, the main conclusion that can be made is that there is no need to panic. As mentioned by Oswalt and Rieniets (2006), growth and shrinkage were very common before the industrial revolution. Even after the Second World War, shrinkage occurred in some areas within the Netherlands, see section 6.2.1. Although shrinkage was already known processes within history, the main issue is the 'blind spot' shrinkage is currently within the policies (Derks et al., 2006). The thesis should therefore focus on the possibilities shrinkage can offer for these areas. They should exploit their openness and tranquillity as an alternative for the Randstad.

**CAUSES OF SHRINKAGE**

**DESTRUCTION**
- wars
- natural catastrophes
- environmental destruction
- diseases

**SHIFTING**
- shifting of locations
- shifting of settlements
- shifting of residents
- shifting economic activity

**LOSS**
- the loss of resources
- shortage of available energy
- long-term declines in employment
- long-term declines in population

**AREA SPECIFIC**
special causes related to a specific area

**CHANGE**
- changes in economic conditions
- changes in political conditions
- changes in demographic conditions

**CONSEQUENCES OF SHRINKAGE**

**Social**
- decline of living quality
- changing population structure
- less support for facilities
- increased pressure on facilities
- tranquility
- cease different types of public transport

**Economic**
- loss of jobs
- closure of shops
- closure of companies

**Physical**
- city scale
  - perforation of the city
  - empty plots
  - opportunity for urban regeneration
- building scale
  - decay
  - vacancy
  - redistribute type of ownership
  - redesign building typologies

Figure 6.2.6.3 The causes of shrinkage

Figure 6.2.6.4 The consequences of shrinkage
6.3 How can we define living quality?

As mentioned before in the problem statement the most problematic consequence of shrinkage is the decline of the living quality in the areas which are affected by shrinkage. The aim of the next section is to get a grip on living quality from an urban point of view. First a clear definition has to be formulated. Unlike shrinkage living quality has a subjective kind of nature. This makes it hard to define living quality. As a part of the definition different indicators have to be defined. These indicators forms the base on which new strategies and tools are developed in the thesis, see diagram 3.2.1 in section 3.2.

In the Netherlands the issue of living quality is already present in policies. In order to place living quality in the Dutch context a brief view of the history of living quality within the Netherlands is made. Different institutions have used different models to monitor the living quality and used this information to make new policies.

---

**TABLE 6.3.1**  
Social functions of an urbanized area

1. **Large-scale production of goods and services**  
a. Maintain and generate export (economic base) activities  
b. Maintain and generate production for local use  
c. Provide employment and earnings to residents and others in the region  
d. Maintain, improve and replace the stock of nonresidential structures  
e. Maintain a labor pool of varying skills and specializations

2. **Creative innovation**  
a. Stimulte innovations leading to higher productivity  
b. Provide means for communications  
c. Provide higher educational programs  
d. Provide housholds with opportunities for upward mobility  
e. Provide centralized facilities for face-to-face contacts  
f. Provide opportunities for employment, education and exercise of leadership for groups subjected to social or economic discrimination

3. **Residential environment**  
a. Maintain, improve and replace the stock of residential structures  
b. Provide neighborhood amenities such as attractive appearance, safety, freedom from excessive noise and social interactions  
c. Provide retailing facilities for residents

4. **Social support system**  
a. Provide educational programs for children  
b. Provide cultural, recreational, religious and entertainment services and facilities  
c. Provide health care services and facilities

5. **Urban governance**  
a. Provide an effective system of justice for setting conflicts and disputes  
b. Maintain an efficient and equitable system of taxation to support governmental services  
c. Maintain government institutions for coping with changes in local conditions  
d. Facilitate citizens’ participation in local government decisions

6. **Supporting functions**  
a. Provide public order and personal security  
b. Provide and maintain transportation system  
c. Provide a system for collecting capital to finance consumer, business, government and other activities  
d. Provide and distribute the energy resources required for other activities  
e. Maintain, improve and replace physical infrastructure  
f. Dispose of wastes and protect the environment

Adapted by author (source: Bradbury, Downs and Small, 1982)
What is living quality?
Living quality should not be confused with the broadly used term Quality of Life (QOL). The quality of life is not only based on wealth and employment, but also the built environment, physical and mental health, education, recreation and leisure time, and social belonging (Gregory et al., 2009). Living quality however consist out of a combination of subjective life-satisfaction surveys and objective determinants. People think of different factors whenever they speak of living quality. Everyone will agree that some common factors like the fact that a high crime rate is undesirable and the house we live in should be clean, but which factors are defining the living quality can be discussed. The definition of the living quality depends on the age, gender, social position, etc. of the persons.
To create a kind of a starting point the social functions of urban areas can act like the base of the indicators to measure living quality. In table 6.2.1 the social functions of Bradbury, Downs and Small (1982) are described. By using these functions and combining these with existing models of measuring living quality, a list of indicators can be created which can be used to measure the effect of shrinkage on the living quality.
Since there is not any hard data available for living quality, there are different models to measure living quality. The UN for example uses the ‘Human Development Index’ (HDI). This methods incorporates different indicators of three areas; health, education and income. By setting goals for each the different areas and calculate to what extend this goals are met. Another used method to measure the living quality is done by the company Mercer. The company composes a list of cities and countries measured by their living quality. In order to compose this list they use 39 indicators divided

### TABLE 6.3.2
Clusters and Indicators of the Mercers living quality survey

<table>
<thead>
<tr>
<th>CLUSTERS</th>
<th>INDICATORS</th>
<th>CLUSTERS</th>
<th>INDICATORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Political and social environment</td>
<td>a. Relation with other countries</td>
<td>7. Public services and transport</td>
<td>a. Electricity</td>
</tr>
<tr>
<td></td>
<td>b. Internal stability</td>
<td></td>
<td>b. Water availability</td>
</tr>
<tr>
<td></td>
<td>c. Crime</td>
<td></td>
<td>c. Telephone</td>
</tr>
<tr>
<td></td>
<td>d. Law enforcement</td>
<td></td>
<td>d. Mail</td>
</tr>
<tr>
<td></td>
<td>e. Ease of entry and exit</td>
<td></td>
<td>e. Public transport</td>
</tr>
<tr>
<td></td>
<td>b. Banking services</td>
<td></td>
<td>g. Airport</td>
</tr>
<tr>
<td></td>
<td>b. Media and censorship</td>
<td></td>
<td>b. Fruits and vegetables</td>
</tr>
<tr>
<td>4. Medical and health considerations</td>
<td>a. Hospital services</td>
<td></td>
<td>c. Daily consumption items</td>
</tr>
<tr>
<td></td>
<td>b. Medical supplies</td>
<td></td>
<td>d. Alcoholic beverages</td>
</tr>
<tr>
<td></td>
<td>c. Infectious diseases</td>
<td></td>
<td>e. Automobiles</td>
</tr>
<tr>
<td></td>
<td>d. Water potability</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>e. Sewage</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>f. Waste removal</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>g. Air polution</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>h. Troublesome and destructive animals and insects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Natural environment</td>
<td>a. Climate</td>
<td></td>
<td>b. Household appliances and furniture</td>
</tr>
<tr>
<td></td>
<td>b. Record of natural disasters</td>
<td></td>
<td>c. Household maintance and repair</td>
</tr>
</tbody>
</table>
into 10 categories to measure the living quality, see table 6.3.2.

In the Netherlands the Sociaal en Cultureel Planbureau (SCP)(in English Social and Cultural bureau of planning) uses a different method. In 1974 the ‘index on well-being’ was created as an overall monitoring instrument. This index, see table 6.3.3, is based on a survey that is focused on the living conditions. One of the main issues for using this method is the difficulty to define indicators that are actually influencing the living. These indicators are also influenced in which time frame these indicators are defined. Society is changing constantly and with the changing society the perception of quality is also changing.

In the next section the different indicators have to be selected and have to be evaluated in order to see if an urban planner can use these indicators to measure the living quality or those new clusters or indicators can be defined related to the living quality. The most important factor for evaluation of the indicators is whether spatial interventions can influence these indicators and therefore increase the living quality.

<table>
<thead>
<tr>
<th>CLUSTERS</th>
<th>INDICATORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. HOUSING</td>
<td>a. Type of ownership&lt;br&gt;b. Type of building&lt;br&gt;c. Number of rooms&lt;br&gt;d. Area of living room&lt;br&gt;e. Scary spot in the neighbourhood&lt;br&gt;f. Year of construction</td>
</tr>
<tr>
<td>2. HEALTH</td>
<td>a. Number of psychosomatic symptoms&lt;br&gt;b. Number of nine serious illnesses&lt;br&gt;c. Number of other illnesses</td>
</tr>
<tr>
<td>3. PURCHASING POWER</td>
<td>a. Number of household appliances&lt;br&gt;b. Number of hobby articles</td>
</tr>
<tr>
<td>4. LEISURE ACTIVITIES</td>
<td>a. Number of hobbies&lt;br&gt;b. Number of none-domestic entertainment activities&lt;br&gt;c. Organisational membership</td>
</tr>
<tr>
<td>5. MOBILITY</td>
<td>a. Car ownership&lt;br&gt;b. Season ticket for the railway</td>
</tr>
<tr>
<td>6. SOCIAL PARTICIPATION</td>
<td>a. Active contribution to activities of organisation&lt;br&gt;b. Volunteer work&lt;br&gt;c. Social isolation</td>
</tr>
<tr>
<td>7. SPORT ACTIVITY</td>
<td>a. Number of times sporting a week&lt;br&gt;b. Number of sports</td>
</tr>
<tr>
<td>8. HOLIDAY</td>
<td>a. Holiday trips in past year&lt;br&gt;b. Holiday trip in foreign country&lt;br&gt;c. Number of holiday articles</td>
</tr>
</tbody>
</table>

Adapted by author source: Boelhouwer, 2002
Living quality in the Netherlands
Since 1973 the first policy dealing with living quality were made. The publication ‘The Social and Cultural situation in the North of the Netherlands’ by the ‘Social and Cultural Planning Office’ (SCP) first dealt with this matter. There were earlier publications with matters like social indicators on health, education, care for the elderly and social deprivation. The SCP is one of the four planning offices in the Netherlands and they study specific the social and cultural aspects of the Dutch society since 1973. During the 1970s the social indicator movement was at a peak (Boelhouwer, 2002). This resulted in an improvement of the living quality in the Netherlands. In the 1980s however the living quality matter there was a dip in the attention that is spend on the matter. Especially the (oil) crisis caused a dip in 1983 of the living quality. In the 1990s the living quality stabilized more or less, but these are mainly caused by the change in the way the living quality is measured. The increase of living quality of the past 40 years can be attributed primarily to a growing number of home owners and the greater number of household appliances (Boelhouwer, 2002). Other factors of the increase of the living quality are the increase of car ownership and there were more people joining organizations and were engaging in sports (Boelhouwer and Stoop, 1999).
Currently the governmental policies shifted to a more integrated approach. One of the examples is the growing attention for the liveability. The aim is to keep not only the big cities liveable, but also the liveability in the rural areas should be maintained. The problems that are caused by the demographic changes in society are magnified in these rural regions. These problems are causing a decline in the living quality.
6.4 Which indicators can be used in the urban context and are affected by shrinkage?

The aim of this section is to define which indicators can be used to develop new strategies and tools. These indicators are affecting the living quality because of the shrinkage and can be influenced by urban planners. In order to make this list of indicators, the defined indicators from existing literature from section 6.3 are connected to the social functions of urbanized areas from Bradbury, Downs and Small (1982), see section 6.3 and table 6.3.1. The first step of this process is sorting the social functions whether shrinkage is influencing these functions or not. The same process is done for the indicators and resources. The second step is connecting the different indicators to the social functions. The third step consists out of completing the list of indicators. New indicators are defined for social functions that still have no indicator.

In the table below the social functions of an urbanized area which can be affected by shrinkage are highlighted. In the tables on the next page the indicators are highlighted which applies for urban planners. By combining both the lists of

TABLE 6.4.1

Social functions of an urbanized area which can be affected by shrinkage

<table>
<thead>
<tr>
<th>1. Large-scale production of goods and services</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Maintain and generate export (economic base) activities</td>
</tr>
<tr>
<td>b. Maintain and generate production for local use</td>
</tr>
<tr>
<td>c. Provide employment and earnings to residents and others in the region</td>
</tr>
<tr>
<td>d. Maintain, improve and replace the stock of nonresidential structures</td>
</tr>
<tr>
<td>e. Maintain a labor pool of varying skills and specializations</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Creative innovation</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Stimulate innovations leading to higher productivity</td>
</tr>
<tr>
<td>b. Provide means for communications</td>
</tr>
<tr>
<td>c. Provide higher educational programs</td>
</tr>
<tr>
<td>d. Provide households with opportunities for upward mobility</td>
</tr>
<tr>
<td>e. Provide centralized facilities for face-to-face contacts</td>
</tr>
<tr>
<td>f. Provide opportunities for employment, education and exercise of leadership for groups subjected to social or economic discrimination</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. Residential environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Maintain, improve and replace the stock of residential structures</td>
</tr>
<tr>
<td>b. Provide neighborhood amenities such as attractive appearance, safety, freedom from excessive noise and social interactions</td>
</tr>
<tr>
<td>c. Provide retailing facilities for residents</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4. Social support system</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Provide educational programs for children</td>
</tr>
<tr>
<td>b. Provide cultural, recreational, religious and entertainment services and facilities</td>
</tr>
<tr>
<td>c. Provide health care services and facilities</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5. Urban governance</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Provide an effective system of justice for setting conflicts and disputes</td>
</tr>
<tr>
<td>b. Maintain an efficient and equitable system of taxation to support governmental services</td>
</tr>
<tr>
<td>c. Maintain government institutions for coping with changes in local conditions</td>
</tr>
<tr>
<td>d. Facilitate citizens’ participation in local government decisions</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6. Supporting functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Provide public order and personal security</td>
</tr>
<tr>
<td>b. Provide and maintain transportation system</td>
</tr>
<tr>
<td>c. Provide a system for collecting capital to finance consumer, business, government and other activities</td>
</tr>
<tr>
<td>d. Provide and distribute the energy resources required for other activities</td>
</tr>
<tr>
<td>e. Maintain, improve and replace physical infrastructure</td>
</tr>
<tr>
<td>f. Dispose of wastes and protect the environment</td>
</tr>
</tbody>
</table>

Adapted by author (source: Bradbury, Downs and Small, 1982)
the indicators, a new list is composed which can be compared with the selected social functions of an urbanized area. By comparing the list of social functions with the list of selected, existing indicators, we can compose a list of indicators which can be used for developing the new tools and strategies.
## TABLE 6.4.4
Compare the list of selected social functions with the list of selected indicators

<table>
<thead>
<tr>
<th>SOCIAL FUNCTIONS</th>
<th>INDICATORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Provide employment and earnings to residents and others in the region</td>
<td>- Variety of jobsectors</td>
</tr>
<tr>
<td>- Maintain, improve and replace the stock of nonresidential structures</td>
<td>- Hospital services</td>
</tr>
<tr>
<td>- Maintain a labor pool of varying skills and specializations</td>
<td>- Medical supplies</td>
</tr>
<tr>
<td>- Provide higher educational programs</td>
<td>- Schools</td>
</tr>
<tr>
<td>- Provide households with opportunities for upward mobility</td>
<td>- Public transport</td>
</tr>
<tr>
<td>- Provide centralized facilities for face-to-face contacts</td>
<td>- Traffic congestion</td>
</tr>
<tr>
<td>- Provide opportunities for employment, education and exercise of leadership for groups subjected to social or economic discrimination</td>
<td>- Variety of restaurants</td>
</tr>
<tr>
<td>- Maintain, improve and replace the stock of residential structures</td>
<td>- Theatrical and musical performances</td>
</tr>
<tr>
<td>- Provide neighborhood amenities such as attractive appearance, safety, freedom from excessive noise and social interactions</td>
<td>- Cinemas</td>
</tr>
<tr>
<td>- Provide educational programs for children</td>
<td>- Sport and leisure activities</td>
</tr>
<tr>
<td>- Provide healthcare services and facilities</td>
<td>- Type of ownership</td>
</tr>
<tr>
<td>- Provide cultural, recreational, religious and entertainment services and facilities</td>
<td>- Type of building</td>
</tr>
<tr>
<td>- Provide and maintain transportation system</td>
<td>- Number of rooms</td>
</tr>
<tr>
<td>- Maintain, improve and replace physical infrastructure</td>
<td>- Area of living room</td>
</tr>
<tr>
<td></td>
<td>- Scary spot in the neighbourhood</td>
</tr>
<tr>
<td></td>
<td>- Variety of shops</td>
</tr>
</tbody>
</table>

### Added indicators

### Living quality tool

The selected indicators can be used for analyzing the current living quality of the different villages. The selected indicators are divided into 9 different categories;

1. Cultural facilities
2. Accessibility
3. Education
4. Sport and leisure
5. Population structure – work in progress –
6. Variety of shops
7. Variety of jobs
8. Horeca
9. Healthcare

For each of this category different indicators are used and rated. For example, the village town can be renovated, but whenever this is not used at all, the value will be marginal. Or whenever a society exist but has no members or no active members, you still do not notice an increase of the value. Besides the different indicators there is also a difference for each group within society. The need of the elderly differs from the group of young families. The presence of an elementary school for example is of great importance for the young family, but not for the elderly. Vice versa the presence of the local card club is important for the elderly but not for youth. But there also facilities that are of importance for each group within society. The presence of an ATM is rated of equal value for all.
By giving each indicator a value and placing this within a webdiagram, a complete and detailed overview off the social infrastructure of each village can be made. Besides the overall rating of the village the different weaknesses and strengths can easily be derived.

1. Cultural facilities; an important cultural facility is the townhouse. The townhouse can combine different functions, like a gym or a café. Another important cultural function is the public library. In some cases there are even (multiple) museums or cultural centers. Also the different activities, like festivals, within or near the village are taken into account. Besides the cultural activities within the village, the importance of the different societies has to be taken into account. These societies can be focused on different groups within society, the youth, adults and elderly.
   a. Cultural facilities
   b. Cultural activities village
   c. Cultural activities on a larger scale
   d. Societies

2. Accessibility; The accessibility of the villages is also an important factor of the living quality. The accessibility can be measured by different factors. The first factor is the geographical distance to different clusters. The second factor is how the village is positioned within the network. To what kind of road typology is the village connected. The final factor is the to what extend the village is connected to the public transport.
   a. Geographical distance to clusters
   b. Road typology
   c. Public transport

3. Education; The educational facilities are mainly of importance for households with children. The presence of educational institutes like primary schools and secondary schools within the villages are analysed. Also the presence of day-care and after-school facilities are examined.

4. Sport and leisure; The possibilities for sport and leisure are mainly measured by the amount of sport and leisure facilities. In most cases the sport facilities are a part of the townhouse, but the amount of societies is also of great importance. There is also a differentiation of which age group these societies are facilitating.
   a. Type of sport and leisure facilities
   b. Different types of societies

5. Housing stock; The type of dwelling is also an important element for living quality. For example, one important factor is the distribution of the type of ownership. Owner occupied inhabitants have more connection with the neighbourhood where they are living in and are more likely to look after their neighbourhood (Bontje, 2004).
   a. Type of ownership
   b. Value of the property (WOZ-waarde)
   c. Building year

6. Variety of shops; A variety of shops is considered to create a kind of activity within the village. Shops for daily necessities, like a supermarket, bakery or a butcher, are very important. Not only are they providing for goods, but it also acts like a sort of meeting place. Also the presence of financial facilities, like an ATM or a post office, is of great importance.
   a. Type of shops
   b. Financial facilities

7. Variety of jobs; A variety in the job opportunities creates a mixed and diverse society. By creating a variety of economies within the region, the region will be less depending on one type of economy. The
variety of job opportunities will also attract diverse types of people.

8. Horeca; Horeca is measured by the amount of horeca facilities within the core of the village.

9. Healthcare; Healthcare can be measured by the presence of different facilities. The presence of dentist and general practitioners is important. Also the presence of different special facilities, like residential care centre is taken into consideration.
   a. Presence of general practitioners etc.
   b. Presence of special health facilities

Example of a webdiagram showing the living quality score of a specific village
CHAPTER 7

WHERE?
Where does the shrinkage occur within the Netherlands and what kind of possible solutions are already used?

7 How does shrinkage fits within the (inter)national context? (RSQ 2)

7.1 In what kind of way does shrinkage occur currently within the Dutch context and what is the perspective of shrinkage within this Dutch context? (RSQ 2.a)

7.2 What kind of interventions or strategies did the national cases applied to use shrinkage? (RSQ 2.b)

7.3 What kind of interventions or strategies did other international cases applied to use shrinkage? (RSQ 2.c)
In this section the order of research subquestion 2 is applied. The scope of the analysis starts on a national scale and will try to define the different area where shrinkage is occurring and the different types of shrinkage that are occurring. After a clear overview of the Dutch situation is given, the current policies, interventions and strategies will be examined of the Dutch context. Especially the case of Zuid-Limburg can be interesting because of the acceptance of shrinkage by the province (van Dam, de Groot and Verwest, 2006). Thereafter a quick overview of current policies, interventions and strategies on international cases will be taken. This will be focused on German cases, because of the acceptance that leading within these cases. American and British are still trying to bend the shrinkage into growth.

Challenges in the population structure
Currently the population of the Netherlands is still growing, but this is rather a relatively small growth (Statline, 2010). After the Second World War the Netherlands had a strong growth of the population during the 1950s and 1960s. Unlike other European countries, a long baby boom was the main factor of the strong growth of the Dutch population, as can be seen in graph 7.1.1. At the beginning 1970s this baby boom came to a halt by growing emancipation, factors like birth control and the growing amount of working women. The main consequence was a lower birth-rate. However the population remained in a growing status because of the huge amount of immigrants that came from the 1970s. This huge flow of immigrants functioned as the main engine of the population growth for a long time and during this time many different ‘type’ of immigrants were coming to the Netherlands;
- Immigrants from Surinam after the Surinam independence in 1975
- Immigrants from the Netherlands Antilles
- Immigrants from regions which are affected by war or troubled politics
- Immigrants in search of job opportunities
- Students

If we take a look to which areas these immigrants were moving, we notice a higher percentage of non-Dutch people moved into the urbanized areas like the Randstad (Statline, 2010). In the beginning of the twenty-first century the stream of immigrants however came to halt, which resulted in a stop of the huge population growth. Currently the population is still slightly growing with 0,5 – 1,0 percent each year (Statline, 2010). This growth will maintain the coming years, but will change into a decline in population around the year 2040.

7.1 In which areas is the living quality affected the most by the shrinkage trend?

This first section will focus on generating a clear overview of the current situation and the perspectives in the Dutch case. The different definitions of population decline, economic decline and the decline of the total amount of households from section 6.2.2 are used to make this analysis. The data that will be used is mainly from the CBS and will enable us to do research on different scales. Some general tendencies of the changing population structure will be given. Finally the different types of shrinkage will be combined to define the severity caused by different combinations of shrinkage.
Graph 6.1.1 clearly indicates the different reasons of the population growth of the last 50 years. From the 1970s the fertility rate dropped from 3.1 child per women in 1960 to 1.8 in 2008. The migrationsaldo clearly indicates different waves of immigrants and emigrants.

(Adapted by Author, data from Eurostat, 2010)

Graph 7.1.1; Growth of population by different ´growth-engine´

Graph 7.1.2; Prognosis of the population growth

Graph 6.1.2 shows 2 important moments. The first one is in 2032 when the natural growth becomes negative and the second one in 2040 when the total growth will become negative.

(Adapted by Author, data from Planbureau voor de leefomgeving, 2010)
Although the population will start to shrink around the year 2040, the graph shows a turning point in the balance between the number of births and deceased’s in the year 2032. After the year 2032 the number of people that will die will surpass the number of born people. The growth in population will only be driven by the balance of migration. In the year 2040 however the balance between births and deceased’s will ultimately turn the growth into a decline of the population, as can be seen in graph 7.1.2.

Although the general population of the Netherlands is still growing, in some regions the population is already shrinking. This process of growth and shrinkage is related to each other. The growth of some cities very much rests on the shrinkage of other places (Sassen, 1991). If we take a look to figure 6.1.1 parts of Groningen, Drenthe, Zuid-Limburg and Zeeland are already shrinking. Some regions are facing with a decline in population of over 15 percent. These regions mostly are rural areas. This decline in population will create all kind of problems in a social, physical and economic way, like discussed in section 6.2.4.

Another remarkable fact that can be derived from figure 7.1.1 is the fact the main regions that are growing, are located around the big cities. This process is only increasing existing problems that are currently occurring in the Randstad. The pressure on the Randstad’s mobility network for example will only get bigger.
Another important aspect of shrinkage is the (coming) change of the population structure. Like many other countries the Netherlands has an ageing population and the ageing will going on until it reaches its peak within the next 20 till 30 years (United Nations, 2005). Whether a population is ageing can be interpreted from two different points of view. The Division for Social Policy and Development, Department of Economic and Social Affairs (2008, p. 71) from the UN states the following:

“Ageing should be considered from two major perspectives: demographic and individual. From the demographic perspective, ageing is a population process, caused by declining fertility and mortality rates, which manifests itself in the growing number of older persons in society. Individual ageing is a process of individual progression through the life course, particularly its latest stages. It is important to consider both of these perspectives of ageing and the implications they carry for society and for the individual as well as his or her family.”

Like in other countries the ageing trend is caused by the long-lasting baby boom after the Second World War. This process of aging in the Netherlands is represented in the population pyramid showed in figure 7.1.2. Over time the large part with the people born from 1945 until 1970 is shifting to the top of the pyramid. Eventually this ‘abnormality‘ will be smooth out around 2050, but until this time the consequences have to be taken care off.
Decline in the total amount of households

Besides the growth in population, the growth in household was also huge the last half of a century. In 1960 the Netherlands contained ‘only’ 3 171 000 household, but this is number more than doubled in 2009 to 7 313 000 households (Statline, 2010). If we compare the growth of the total amount of households to the growth of the population we notice the growth of the households is relative higher compared to the growth of population, see graph 7.1.3. This can be explained by the decline in the average household size. In 1960 the average persons who lived in the same household was 3,56 persons (Statline, 2010). In 2009 this average dropped down to an average of 2,25 persons per household (Statline, 2010). If we only take the decline in the average household size into consideration and do not take the population growth into account there was a need of an extra 2 500 000 houses. This trend of the decline of the average household is predicted to flatten out within the next 30 years. In 2040 the average household size is predicted to be 2,06 persons per household. This will have ‘negative’ effect on the growth of the amount of households, resulting in a lower need of less dwellings on a national level. This growth will be increasingly depending on the population growth, see graph 7.1.3. As mentioned before in the ‘Changes in population structure‘ section the population growth is predicted to be negative in the year 2038 (Staline, 2010). The growth of the total amount of households is in this time frame closely connected to this population growth resulting in a negative household growth within a few years (Staline, 2010).

Considering this general trend of both the population growth and the growth of the amount of household

![Graph 7.1.3; Growth of population compared with the growth of households](image)

Graph 7.1.3 clearly indicates the different rate of growth between population and household. Due to the decline of the average household the growth of the households exeded the growth of the population.

(Adapted by Author, data from CBS, 2009)
these tendencies can differ on a regional level. Unlike the trend of a decline in population which we noticed in the last 10 years, the decline of the total amount of households is not (yet) noticeable during the past 10 year. During the period 1998 until 2008 the population decreased in 40 municipalities, but in this same time frame only 4 municipalities had a decline of more than 2,5 percent of the total amount of households (Staline, 2010). The CBS and the PBL however predicts that within 30 years more regions will face a decline in the total amount of households. The main reason for the decline in the total amount of households is caused by the change of the average household size and the decline in population.

Besides the total amount of household the household structure is also changing due to the changes in the population structure and changes in the living conditions. The main consequence of the population structure is the average household. The number of single and two persons is only increased by factors like ageing. The current building stock however is primarily focussed on family dwellings (Statline, 2010). The building stock is not tuned to the current situation. The requirements people have from their dwelling also changed over time. People prefer dwellings with much larger rooms than the dwellings have from the post war period.
Economic decline
Besides the changes of the population structure and the decline of the total amount of households, the economic decline is also an important indicator of shrinkage, like discussed in section 6.2.2. In this section the definition of economic decline is defined as; economic decline is considered to be significant if the level of unemployment of a specific area is at least 1% higher than the national level the area. On the national scale these definition can be used to define areas which are experiencing economic decline.

Within the European context the Netherlands is considered as a country with a low unemployment rate. Currently the Netherlands has an unemployment rate of 5% (October 2010, Statline), but compared to the European unemployment of 10% (TradingEconomics.com) the Netherlands is still well below this average. Also compared to our neighbouring countries our unemployment rate is still well below theirs (see figure 7.1.4).

Within the national context there are however differences between the different areas. Figure 7.1.5 shows the unemployment rate in 2009. One of the remarkable things is the low unemployment rate in Zeeland. The causes of this low unemployment rate should be analysed in chapter 8. Although these regions have a decline of the population and a decline of households, the people still have their jobs. The unemployment rate is the largest in Groningen. Limburg and Flevoland also have a higher unemployment rate than the average unemployment rate.
Job losses by mechanisation of agriculture
(photo; www.boerderij.nl)

Job losses by removal of mining activities
(photo by Limburg Gaia Park)

Job losses by up scaling in the fishing sector
(photo by Stichting voor duurzame visserij)
Conclusion

Now that the three definitions of shrinkage are used to define the areas which are already shrinking areas, but also which areas will have experience shrinkage within the next 30 years. The current situation shows three main shrinking areas in the Netherlands; Noord-Oost Groningen, Zuid-Limburg and Zeeuws-Vlaanderen. Currently the shrinkage is limited to a decline of the population. Especially the area of Zuid-Limburg is currently struggling with the decline of the population. Noord-Oost Groningen is currently struggling with a high unemployment rate. Zeeuws-Vlaanderen is not (yet) showing signs of shrinkage. If we try to determine which area is currently affected the most by shrinkage the data of the population decline, the economic decline and the decline of the total amount of households are combined. Every scale of the legend gets a number. The higher the number is, the more sever the problem is. By adding the three different data from the three different categories the most affected areas are shown, see figure 7.1.6. This clearly indicates the severity of the problems in the regions of Noord-Oost Groningen and Zuid-Limburg. This is mainly caused by the unemployment in these regions. If the population and household growth is only taken into account, the problems were only affecting a much smaller area.

If we take a look to the prospects, we notice that within 30 years not only the population of several areas will start or proceed to shrink, but also the total amount of households will start to shrink. The economic decline cannot be taken into account because there no predictions how the economic situation will be over 30 years. Therefore only the...
population and household decline will be taken into account. Besides the social impacts of a shrinking population the physical impact of the shrinking amount of households also affects these areas. To clearly point out the areas where both the factors take place, the two maps of the predicted population growth and the amount of household growth are combined. By giving every scale of the legends in the two original maps a value, a new map can be created which combines the populations and household shrinkage, see figure 7.1.7.

The map contains 9 new scales varying from 2 till 10. This number represents a combination of two scales from the original maps. The class 10 for example means the combination of class 5, population shrinkage of over 15 percent, from the population growth is combined with class 5, a household shrinkage of over 10 percent, of the household growth. This means that class 10 equals a region which has a decline of over 15 percent in population and a decline of over 10 percent in the number of households.

If we take a look to the regions which are most likely to deal within 30 years with both phenomena we notice the majority are located near the Dutch border. One of the reasons is mentioned in the report of the SCOOP (2009). Because of the favourable housing prices in Belgium and Germany young families migrate to these countries. Another reason could be the lack of connectivity to the Randstad region. The geographical distance between the two regions makes it difficult for young people to benefit from the Randstad in a social, economic and cultural point of view.

FIGURE 7.1.7
(Adapted by Author, data from Planbureau voor de leefomgeving, 2010)
7.2 What kind of interventions or strategies did other international cases applied to use shrinkage as a designing tool?

Although the current forms of shrinkage are relatively new, there are some cases where shrinkage is already occurring, but also were shrinkage is acknowledged within urban planning. On the international scale shrinkage occurred in all kind of cities from the old industrial cities in the ‘Rustbelt’ of the United States like Detroit and Chicago to cities in the east of Germany. The reaction of urban planning to this shrinking trend is very different. In general the policies in the United States and England are focused on trying to turn the shrinkage into growth, whereas the policies of the cities in East Germany are accepting the shrinkage and try to use the opportunities shrinkage can bring. One example of the shrinking East German cities is Leipzig. Leipzig had only 75 000 inhabitants before the industrial revolution. The city was characterized by a city core with surrounding villages and agricultural land. In the period between 1860 and 1890 the number of inhabitants grew to 295 000 inhabitants due to the rapid industrialization. The immense growth triggered the development of large residential quarters around the city core and the urbanization of the villages and agricultural landscape. The immense growth continued until 1940 were the number of inhabitants peaked at 700 000 inhabitants. During the Second World War the number of inhabitants dropped to 617 000 inhabitants. The steady decline of the number of inhabitants continued until 1989 to 530 000. Although the population was declining, Leipzig was still expanding on the fringe. Large expansion, like Grünau and Paunsdorf, were constructed during the 1970s and 1980s. However, the big decline of
the total amount of inhabitants occurred after the reunification of Germany, resulting in a population loss of 100,000 inhabitants. The suburbanization however was still going on during the 1990s (Plöger, 2007). In order to use the lessons that can be learned from the case of Leipzig, the following questions should be answered:

1. What were the main consequences of shrinkage?
2. What kind of interventions or strategies were applied?
3. What can be implemented in the case of Zeeuws-Vlaanderen?

What were the main consequences of shrinkage? Like many other shrinking cities in Eastern Germany, Leipzig was still expanding her urban fabric although the population was declining. The main consequence of this trend was the decay and the vacancy of many building blocks. Ultimately the decay and vacancy resulted in all kind of brown fields within the urban fabric.

What kind of interventions or strategies were applied? In Eastern Germany many cities are or were facing with a decline of the population. To manage and control the effects of the decline the government came up with the ‘Stadtumbau Ost’. The main focus of this program is the demolition of the vacant housing stock of shrinking cities in Eastern Germany. The master plan of Leipzig which was prepared in 2006, Planwerk Stadtraum, contains two major focuses:
- To define where the demolition (20% of the housing stock) will take place
- To transform demolition sides and existing brown fields into public spaces this forms a network trough the city.

By setting these two focuses the landscape within the city gets a central role. This is only reinforced by the fact that the majority of the shrinkage is occurring along the watercourses and landscape wedges. Besides the demolition of vacant and decayed buildings the master plan provides also the densification and renovation of the housing stock, especially in the city centre (City of Leipzig, 2009).

What can be implemented in the case of Zeeuws-Vlaanderen? The main lesson which can be learned from Leipzig is the integration of shrinkage within the different policies. Shrinkage is an integral part of the Masterplan. Instead of trying to minimize the effects of shrinkage, shrinkage is used as a design element. The fragmented green structure is connected and improved by the demolition of several buildings and neighbourhood. By integrating the shrinkage within the future policies, different areas can be assigned for demolition. This will prevent the demolition of buildings one by one, which will result in a fragmented urban fabric.

The funding issue is a major problem in transformation of shrinking areas. In order to prevent any problems, the financial structure of Leipzig is also making it easier to face the shrinkage. A national program, Stadtumbau Ost, is especially established for making interventions possible for shrinking cities in Germany. This makes it easier to improve the conditions for the current residents, because the residents are not dependent on external companies who have to invest in a shrinking area.
LEGEND

- Potential settlement area
- Planned buildings
- Potential building structures
- Existing buildings
- Existing settlement area
- Streets, railways
- Potential green and open areas
- Existing forest
- Agricultural area
- Water

Planwerk Stadtraum Leipzig; improved green belts and new building developments
(City of Leipzig, 2009)
7.3 What kind of interventions or strategies did other national cases apply to use shrinkage as a designing tool?

Besides the international cases there is also a Dutch case, the area of Parkstad. Although some areas in the Netherlands during the 1960s and 1970s already experienced a sort of shrinkage, the situation in Parkstad can be exemplary for many more current cases in the Netherlands. Parkstad consists out of the municipalities Heerlen, Kerkrade, Landgraaf, Brunssum, Nuth, Voerendaal, Simpelveld en Onderbanke and contains 255 000 inhabitants, see figure 7.3.1. The focus of this case study will focus on the municipality Heerlen. Like Leipzig Heerlen was a small village before the industrialization. Heerlen was situated on the intersection of various transport routes. The area surrounding Heerlen can be characterized as agricultural landscape scattered with smaller developments. The population of Heerlen together with the hamlets was only 3 000 inhabitants. Heerlen got its first railway connection, triggered by the introduction of the mining industries at the end of 19th century. The railway connection enabled the transportation of the coal from the mines. However, the big growth of the population was triggered by the state-operated mines. The population of Heerlen grew to 32 000 in the 1930s. The urban fabric expanded along the locations of the new mining colonies. These developments continued until the 1950s. Because of alternative cheaper energy resources Heerlen lost the mining function. Most of the mining activities were cancelled between 1965-1975. This resulted in many job losses in the area. Because of the high unemployment, many people moved out of the region in search of a job. Accordingly, the urban development stagnated in Heerlen. Like the
case of Leipzig, the following questions should be answered to help the strategies and interventions in Zeeuws-Vlaanderen:

1. What were the main consequences of shrinkage?  
2. What kind of interventions or strategies were applied?  
3. What can be implemented in the case of Zeeuws-Vlaanderen?

**What were the main consequences of shrinkage?**
Like the many other villages in Parkstad, Heerlen still had small developments along the edges of the city. The lack of new people resulted in people moving from the older labourer’s cottages in the city centre to the newer dwellings in the small developments along the edges. The older labourer’s cottages in the city centre became vacant and started to decay. In the most cases these dwellings were demolished leaving many vacant spots in the city centre. The effects off the shrinkage is therefore reflected in the vision of the municipality Heerlen. The city is described as a fragmented form with isolated residential quarters, vacant Brownfield areas, stream valleys and landscape corridors (Gemeente Heerlen, 2009).

**What kind of interventions or strategies were applied?**
In Heerlen the regenerations plans are mainly focused on the improvement of the different housing areas. These improvements vary from the demolition of the housing stock and the rebuild of new houses to improving the current housing stock to a higher quality. Besides the general population decline of about 17%, certain district are faced with a population decline of 25%. In some district, Meezenbroek, Schaesbergerveld and Palemig, the conditions are that of such a low level, that they are included in the list of the ’40 krachtwijken’, which is a list of 40 Dutch neighbourhoods which calls for urgent transformations. In these districts the housing stock consists mostly out of apartments (33%) and row housing (55%) (Daylan, 2009). The most vacancy occurs in the apartments. Therefore the municipality made plans in collaboration with the housing associations to demolish these apartments and reconstruct new housing and commercial complexes. Other decayed dwellings will be renovated.

Besides the interventions and strategies which are focusing on the housing stock, the government planned improvements on the mobility network. A new ring road, Parkstadring, is planned, which will connect Heerlen Brunssum, Landgraaf and Kerkrade. In addition a new tramline from Heerlen to Aachen has been discussed for a long time. This new tramline will be realized together with a business campus on the border of the Netherlands and Germany. The investments of this new tramline will be made by the province, the municipality, the central government of the Netherlands and form Belgium.

**What can be implemented in the case of Zeeuws-Vlaanderen?**
The main lesson which can be learned from Parkstad is the awareness of shrinkage and the problems which has to be dealt with. Parkstad was the first region in the Netherlands which accepted the shrinkage trend and did not tried to turn this shrinkage back into growth. By accepting the shrinkage the step toward using the shrinkage can be made. The shrinkage is used to focus on the
Figure 7.3.3 One of the results of the contest for Parkstad Limburg

(Illustration by; J. Paumen || De Architect 2011 2)
different qualities and the character of the region. Currently, Parkstad is still trying to use different strategies and options how to use the shrinkage. However, Zeeuws-Vlaanderen is still ignoring the shrinkage and still tries to lure people to the area, instead of designing for shrinkage. The interventions and strategies applied in Parkstad are still minimal and fragmented, resulting in a minimal effect for the residents. This is partly caused by the lack of financial means. Unlike in the case of Leipzig, the Netherlands does not have a national program for dealing with shrinkage. Therefore, all the interventions and strategies are also dependent on private interference. There are some projects where the housing associations contribute to the investments, but these projects are just the start. The financial feasibility is an important factor that has to be kept in mind not only in Zeeuws-Vlaanderen, but also for other ‘shrinking cases’.

**General lessons**
Besides these more specific lessons from the case of Leipzig and Parkstad, there are some more general lessons (Daylan, 2009);

- Focus investments to areas where an intervention should take place. The limited financial sources should be strategically distributed to achieve effective solutions.

- The interventions should have a mixture of exogenous and endogenous investments. There should be a national program which provides a base from which private investments should made.

- Develop a comprehensive strategy that covers interventions at various scales. Regeneration should start from the region and work in coordination with solutions at lower scales.

- Avoid quick, ‘paint-job’ renovation of bad housing stock. Only high quality, diverse housing can stand up the competition over the long term.

- Demolition and re-construction should take place at the same time. While the vacant housing stock is extracted, new strategic projects should be planned that would stimulate possible future developments.
CHAPTER 8

WHAT?
How is shrinkage affecting the context of Zeeuw-Vlaanderen?

8.1 How does shrinkage fits within the context of Zeeuws-Vlaanderen? (RSQ 3.a)
  8.1.1 What factors are causing shrinkage in this area? (RSQ 3.a.i)
  8.1.2 What kind of social, physical and economic problems are related to the shrinkage? (RSQ 3.a.ii)

8.2 How is the shrinkage affecting the living quality?

8.3 How could Zeeuws-Vlaanderen anticipate on the consequences of shrinkage?

8.4 Vision for Sluis
8. Context of Zeeuws-Vlaanderen

This part of the thesis will make the introduction to the project area Zeeuws-Vlaanderen. After Zeeuws-Vlaanderen is placed within its geographical location, the focus will shift towards the matter of shrinkage. As explained in chapter 6, there are different forms of shrinkage. Each different form is caused by different factors and creates different consequences. Therefore, the first part of this section will explain the different factors which are causing the shrinkage. When the factors which are causing the shrinkage are known, the different consequences can be mapped. By using the analytical tool for measuring the living quality described in chapter 6.4, the effects of shrinkage on the living quality can be measured. By using the different qualities of Zeeuws-Vlaanderen new interventions and strategies should be developed to limit these effects.
Zeeland

The province Zeeland is located in the south-west corner of the Netherlands and borders the provinces of Zuid-Holland in the north, Noord-Brabant in the east, Belgium in the south and the North Sea in the west. The total area of Zeeland is 97,000 hectares. The province is divided into 13 municipalities. The most municipalities are located on the middle peninsula. This is also where the majority, 63%, of the people live (Statline, 2010). Zeeland consists of a few middle-sized cities, like Vlissingen, and a variety of small villages. The administrative center of Zeeland is located in the capital of the province Zeeland Middelburg.

During the 1960s and 1970s some big industrial companies moved into the harbors of Vlissingen and Terneuzen causing people to work in the industrial sector instead of the agricultural sector. Currently the most people work into the service sector (www.zeeland.nl). During the summer Zeeland attracts many tourists, about 1,4 million people visits Zeeland. A large part of these tourists, about 800,000, are Germans (Scoop, 2010, p. 20).

Zeeuws-Vlaanderen

Zeeuws-Vlaanderen is located in the southern part of Zeeland and consists out of the municipalities Hulst, Terneuzen en Sluis. Zeeuws-Vlaanderen is not geographically directly connected to a Dutch province, but is connected to the Belgian provinces of West-Vlaanderen, Oost-Vlaanderen and Antwerp. The only connection to the Netherlands is by the Westerschelde tunnel. The biggest city within Zeeuws-Vlaanderen is the city of Terneuzen, 24,845 residents, and is offering a lot of harbour related job opportunities. The harbour generates almost a third of the total amount of jobs in Terneuzen, almost 20% more then the second biggest jobsector (RIBIZ). Besides the city of Terneuzen there are some ‘large’ Belgian cities near Zeeuws-Vlaanderen. The cities of Brugge, Gent and Antwerp are located within a radius of 35 kilometres.
8.1 How does shrinkage fits within the context of Zeeuws-Vlaanderen?

This first section of chapter 8 will focus on the shrinkage Zeeuws-Vlaanderen has to face. By using the different definitions of chapter 6.2.2, the shrinkage should be mapped. This will start by looking to the population developments, because the population tendencies are both influencing the economic decline and the decline of the total amount of households, see figure 6.2.1.1. This will result in different social, physical and economic consequences which have to be dealt with by the different municipalities of Zeeuws-Vlaanderen.

Although the shrinkage is already starting to happen in Zeeland, the province is not (yet) accepting the shrinkage trend (van der Kooy, 2006). This is demonstrated in the 16 policy statements and the following four focus points of Zeeland (Provincie Zeeland, 2004);

- Stimulate the quantity and the diversity of the newly build buildings
- Stimulate the restructuring and the transformation of the existing building stock
- Give the opportunity for ‘special’ building desires
- Take care of vulnerable groups in society within the housing market

Zeeland should take an example to the case of Parkstad Limburg and should plan for the decline. By using the different qualities of the different areas of Zeeland potential new activities can be realized.

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**Population development by municipality**

*Figure 8.1.1 Data of the population prognosis per municipality*
8.1.1 What factors are causing shrinkage in Zeeuws-Vlaanderen?

First the decline of the total population will be analysed. The data collected in chapter 7 will be the starting point, see figure 8.1.1.

Population developments
The statistics from figure 7.1.1 on page 64 indicates a stable population over the last 10 years, but within the next 30 years the population of Zeeuws-Vlaanderen is expected to shrink severe. However, when we take a closer look to the area, this image doesn’t seem to correspond with the data collected from the province of Zeeland. Unlike the PBL, the province is using their own data which is on the level of the different villages within one municipality, instead of the data on the level of the municipality published by the CBS. The province is able to generate an image of the current situation within the small villages of the different municipalities, see figure 8.1.2. Although the image created by the PBL the municipalities Sluis, Terneuzen and Hulst seemed to have a stable population over the past few years, the data from the province alters this image. There are big differences between the different villages in Zeeuws-Vlaanderen. The large villages are in general still experiencing a light increase in population. The small villages however are in general already experiencing a slight decline in population, resulting in combination with the growth in the larger villages in a stable population of the municipality. This pattern of reurbanization, see section 6.2 graph 6.2.1, is already affecting the current situation in Zeeuws-Vlaanderen.

However, the general prognosis of the PBL is suggesting a more severe situation within the next 30 years. According to the data of the PBL each municipality in Zeeuws-Vlaanderen will experience a population decline of over 10%, see figure 8.1.1. In order to clearly define the different causes and consequences, a more detailed image of Zeeuws-Vlaanderen should be made. Like in the case with the situation of the past years, the province of Zeeland is also providing the prognosis per village for the next 30 years, see figure 8.1.3 on the next page. The image created by these prognosis is also different from the image created by the prognosis of the PBL. First, the breakdown into different time intervals gives a better insight. Within the next 5 years the pattern of reurbanization will continue. Thus, in general the larger villages are more likely to keep growing and the smaller villages will keep...
shrinking. Second, within 20 years the larger villages will stop growing and even in some cases larger villages also start to shrink. The decline of the population will also cause a decline of the total amount of households (Province of Zeeland, 2004). However, unlike other shrinking areas in the Netherlands, Zeeuws-Vlaanderen is not facing an economic decline as a result of this shrinkage, indicated by the unemployment rate shown in figure 7.1.5 on page 68. Near Zeeuws-Vlaanderen there are a lot of ‘job generators’, like the harbour of Antwerp. Concluding, within the next 5 years there are still some villages, mostly the larger villages, within Zeeuws-Vlaanderen which are still growing, but the majority is already facing with a decline. This
raise the question what factors are causing this shrinkage?

*Changing population structure*

Like described in figure 6.2.1.1, page 39, there are five different elements which contribute to the shrinkage of the population and the households;

- number of people born
- number of people died
- number of immigrants
- number of emigrants
- the average household size

In short, the different changes in the population structure can ultimately result in a specific type of shrinkage. This requires the data of the development and prognosis of the population specified by age.

However, the data from the PBL or the data of the province of Zeeland are insufficient. The province of Zeeland only provides some age specific data for the period until 2015. In order to create a complete image, also some age specific data for 2030 should be presented. The combination of the population data collected from the CBS and the province of Zeeland generates the population trend for the year 2030.

*The current situation, the year 2009*

First of all the current situation in Zeeuws-Vlaanderen will be analysed. In figure 8.1.4 the current situation is represented within Sluis, Terneuzen and Hulst. Besides these three municipalities, the current

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**Figure 8.1.4 Population structure 2009 || source; CBS Statline**
situation in the Netherlands, the province Zeeland and Zeeuws-Vlaanderen is represented. This makes it possible to compare the current situation in Zeeuws-Vlaanderen with the situation on a national and the provincial level. The first thing that can be derived from these statistics is the fact that there are not so much differences between the municipalities of Zeeuws-Vlaanderen. Compared with other two municipalities, the municipality Hulst has a slightly younger population. The age category 0-14 years in Hulst is slightly bigger and the age category > 80 years is slightly smaller. However, if Zeeuws-Vlaanderen is compared with Zeeland and the Netherlands there are some big differences. Compared to the Netherlands, the population of Zeeuws-Vlaanderen is already aging. The age category 30-59 years is comparable, but the age category < 30 years is substantial smaller, resulting in a substantial larger age category > 60 years.

Although there are not that many differences between the three municipalities, there are some differences between the different villages. If the case of the municipality Sluis is taken into consideration, the biggest differences occur in general within the smaller villages, but this can be deducted to the fact that the situation is easily changed by only little changes. In some cases even the bigger villages also deviate from the average, see figure 8.1.5. Aardenburg is still a ‘young’ municipality. The age category 16-30 years is bigger than the average. A complete overview of all the villages can be found in the Appendix A.

**Short term prognosis, the year 2015**

Like in shown in figure 8.1.3 on the previous page the general trend of shrinkage is starting to develop. Most of the small villages are faced with a severe decline of the population and in the larger village the turningpoint from stabile to decline is on hands. In general the population of Zeeuws-Vlaanderen dropped to 105 045 people, a decline of 2146 people. However, if we look to the population
structure, there is another remarkable aspect besides the overall shrinkage. In figure 8.1.6 the population structure of the different municipalities is shown. Compared with the population structure of 2009, the ageing of the population is clearly visible. However, when the statistics of the individual age groups are compared with the statistics of 2009 in numbers, some age groups are still growing, see figure 8.1.7. Although the overall population is shrinking, the age group 60-80 years is still growing in every municipality. The age group < 16 years is therefore even shrinking stronger than the overall shrinkage. This will have a double effect on the area. Instead of only trying to plan for decline, there is still a group which requires all new kind of facilities.

Figure 8.1.7 Population tendency compared to 2009 (illustration by: author)

Figure 8.1.6 Population structure 2015 || source; CBS Statline and Province of Zeeland
Long term prognosis, the year 2030
Like in shown in figure 8.1.3 on the previous page 84 almost every village will experience a decline of the total population. This also will inflict the current situation within the larger villages. Especially the municipality of Sluis is expected to experience severe shrinkage. This is also reflected in the changes in the population structure. The municipality of Sluis will only experience growth in the age group > 80 years, but all the other age groups will experience a decline.

The tendency of the changing population structure municipality of Hulst is similar to the tendency of the municipality of Sluis in 2015. It is very likely that the municipality of Hulst will have a similar tendency like the ‘2030-tendency’ of the municipality of Sluis in 2040.

Despite the overall shrinkage in Zeeuws-Vlaanderen, the general tendency of the ageing population is still going on. However, the ageing of the population will peak between 2015 and 2030 and will subside after 2030 (Provinvie Zeeland, 2004).
Causes

The causes of the population decline and the total amount of households are both related to the changing population structure, which can be classified as the categories of ‘shifting’ and ‘change’ from section 6.2.3 on page 40. The first process of this changing population structure is the proceeding decline of the average household size. This declining average household size kept the decline of the total amount of households to a minimum and in most cases even generated growth of the total amount of households without a growth of the population. The three municipalities of Zeeuws-Vlaanderen, see figure 8.1.2, consists for the majority of single- and 2 persons household. This gives an average household size between the 2.1 and 2.3. This does not differ that much with the average household size of Zeeland, 2.2, and even of the Netherlands, 2.2. However, combined with the decline of the population the process of the declining total amount of households will cause all kind of different spatial consequences, which will be discussed in the section 8.2.

The second process of the changing population structure is the ageing of the population. This is a process which is occurring on the national level, but is camouflaged largely by the in-migration in the other areas in the Netherlands. There are different factors that can contribute the process of ageing of the population. The most obvious is the natural element. This is often caused by of an uneven population pyramid, like this is the case within the Netherlands. The baby-boom generation of the 1960s and 1970s is a much bigger generation than the ones from before and after, see section 7.1. If we take a look to the current demographic situation of Zeeuws-Vlaanderen and compare this with the situation in the Netherlands and Zeeland, we notice already a slight increase in the sections ‘30-59 years’

Figure 8.2.10 Migration balance Zeeuws-Vlaanderen by age (data: Statline, 2010)
and ‘60-79 years’ and a slight decrease in the section ‘0-14 years’.
The final process which is causing the changing population structure is selective out-migration. In the most cases people are moving because of housing related aspects, 36.1%, or personal aspects, 24.1% (van Kempen and Schutjens, 1999). In Zeeuws-Vlaanderen, like illustrated in figure 8.1.5, especially the people between the 15-25 years old are leaving the area. The main reason of the out-migration of this age-group is the ‘education-migration’ (van den Berg, 2010). This means that the youth is leaving the area to follow their education outside the area. In the case of Zeeuws-Vlaanderen the majority, 90%, of the youth attending the HBO or a university are leaving the area. After completion of the education only 30% is returning to Zeeuws-Vlaanderen. From the other 70% two thirds are expecting never to return to area (van den Berg, 2010). This process of the out-migration of highly educated youth is also known as ‘braindrain’.

Figure 8.2.11 The process of ‘braindrain’
(source: Van den Berg, 2010)
Figure 8.2.12 The ageing population
8.2 How is shrinkage affecting the living quality within the municipality?

This section will focus on measuring the effects and consequences of the changes in the population and the decline of the total amount of households on the living quality. The analytical tool described in section 6.3 on page 52 will be used. The effects on the 9 different categories will be examined. From this first examination of the municipalities, some existing strengths and weaknesses can be determined. After the establishing the current conditions, the effects of the shrinkage will be applied on the living quality. This will give an indication what kind of problems could be aspected, whenever the shrinkage should actually happen in this area. These points will be used for input for the different strategies and interventions proposed in section 8.4.

8.2.1 Current conditions regarding the living quality

This part will have two different goals. The first goal is to point out existing problems regarding the living quality. The second goal is to create a starting point from where the different effects of shrinkage regarding the living quality could be measured, see figure 8.2.1. By measuring the different effects on the living quality, the different interventions and strategies proposed in section 8.4 will focus on maintaining the living quality in the different municipalities. By maintaining the living quality, the vicious circle of the shrinkage could be broken, see figure 8.2.2. This could make it possible that the area will get a more stable situation and it is possible that the area will start to experience growth, but this is not the aim of the interventions and strategies.

For creating the different webdiagrams in figure 8.2.3, different types of data and sources are used. This varies from the KvK (in English; Chamber of Commerce) to SCOOP, which specifically assigned to make analysis of Zeeland.
If we take a closer look to the webdiagrams there are already some categories which are already lacking.

The municipality of Sluis is lacking in three different categories. The first category is the accessibility, scoring 5,7 out 10 points. The municipality Sluis does not have a highway or a motorway through or near the municipality. This makes hard and it will take a lot time to travel between different areas in the Netherlands and Belgium, but also to travel within the municipality. This is inflicting a bad mobility of the area and is placing the municipality of Sluis into isolation.

The second category is the housing stock, scoring 4,3 out 10 points. A large part of the housing stock of the municipality Sluis, 56 percent (Province of Zeeland, 2009), is build before 1970. In general is the building quality of these building inferior, which can lead to detoriation and decay. This is also reflected in the property of the value (WOZ waarde). Compared to the Netherlands the average value of the property is € 66.000,- less (Kvk, 2010b).

The third category is the healthcare. The municipality only contains a small ‘hospital’ for minor procedures. But also basic healthcare like the general practioner is in many village no longer available.

Figure 8.2.3 The different webdiagrams measuring the living quality of the current conditions (data from; SCOOP, RIBIZ, KvK, SYSWOV, municipalities Sluis, Terneuzen and Hulst, websites of societies)
In the municipality Terneuzen there are currently not that many categories lacking. This is mainly by the regional function of the city of Terneuzen and the sizes of the different villages, which is relatively large. This creates more public support for the different facilities. However, there is room for improvement in two categories. The first category is the housing stock. Like in the municipality Sluis over 50% of the housing stock is build before 1970, making it more plausible for deterioration and decay whenever the area is faced with shrinkage (Province of Zeeland, 2009). The property value is even lower than in the municipality Sluis. Compared with the Netherlands the average value in the municipality is € 81.000,- less.

The other category of interest is the job diversity in the area. The harbour area of Terneuzen is providing almost a third of the total job opportunities in the municipality (KvK, 2010a). This makes the employment sector very vulnerable if this sector is faced with a crisis. Also the difference in the job opportunities is minimal. The harbour related jobs are mainly for low educated people (Kvk, 2010a).

The municipality of Hulst is scoring in all the categories average. The only category which is relatively lacking is the healthcare. Unlike Terneuzen and Sluis, Hulst does not contain any medical facility where procedures can be performed. This makes the area dependent on the healthcare facilities in Belgium and in Terneuzen.

Remarkable is the relatively good quality of the housing stock. Unlike the municipalities Sluis and Terneuzen, the municipality of Hulst contains over 50% of housing stock that is build after 1971. It even has in percentage a higher amount of houses build after 1971 then in average in the Netherlands (Province of Zeeland, 2009). However, the property value is still € 49.000,- less than the average in the Netherlands (Kvk, 2009).
8.2.2 Effects on the living quality inflicted by the shrinkage

This part will focus on the changes of the living quality inflicted by the shrinkage. The first step is to determine which categories are inflicted by the shrinkage. If we take a look to the process of shrinkage in figure 8.2.2 on page 92, there are some processes which affect the living quality. However, the accessibility and the housing stock are not directly influenced by the shrinkage. However, these categories can be used to create a higher living quality. For example, by improving the accessibility of villages the reach of different facilities can be enlarged. The other categories are all related to the public support for the facilities. It is this public support that is decreased and shifted by the shrinkage. The decline of the population causes the closure of different types of facilities. The local grocery store has to be closed by the lack of people within range, see figure 8.2.7. But also the changes in the population structure are affecting the facilities, see figure 8.2.6. For example, the decline of the amount of people in the age group < 16 years will cause a decline of the amount of students in the municipality. In the municipality Sluis this age group is declining with almost 2000 people, see Appendix A. This will also mean adoptions or even closures for the primary and secondary schools. But also the ageing of the population demands different priorities. The healthcare in the area should be of a high level to accommodate the needs of the ageing population.

In the vision of Zeeuws-Vlaanderen the consequences of the shrinkage should not cause the continuation of the decline of the living quality. On order to maintain the living quality the following consequences have to be taken into account, see next pages.
Consequences for the building stock

- Accommodate the decline of the total amount of households

- Accommodate more 1- and 2-person households

- Accommodate the ageing population

- Keep the building stock of a high quality
Consequences for the facilities

- Manage the decreasing support for different facilities
- Decrease of support for facilities focused on the young part of society
- Increase of demand for facilities focused the older part of society
- Cluster or spread?
8.3 What are the characteristics of Zeeuws-Vlaanderen?

Now that the current and predicted conditions of Zeeuws-Vlaanderen are known, the next step is to define the different characteristics of Zeeuws-Vlaanderen. Like Parkstad, Zeeuws-Vlaanderen should focus on its character and the different qualities. The shrinkage should be used to strengthen this character and qualities. However, before these new interventions and strategies can be developed, the characteristics and qualities of Zeeuws-Vlaanderen should be explored.

8.3.1 Characteristics of Zeeuws-Vlaanderen

This section will focus on exploring the different characteristics and qualities of Zeeuws-Vlaanderen. First the ‘evolution and development of the landscape’ will be analyzed, followed by the structure and morphology of the landscape. In the end the landscape is the base layer, resulting in a great influence on different sorts of developments. This will result in a base map of the landscape indicating the different characteristics and qualities of the landscape (figure 8.3.5 on page 94-95). The next step is to analyse the different types of developments. Also this analyse will focus on the different characteristics and qualities.

Evolution and development of the landscape

The majority of Zeeuws-Vlaanderen can be considered as an open sea clay-landscape with a small stroke of sand ridges in the far south. The sea clay-landscape consists out of a patchwork of all kind of small polders combined with the existing sand ridges. To create these small polders the dykes were of great importance for reclaiming the land and protect the land from the sea. Before the land reclamation Zeeuws-Vlaanderen largely consisted out of mudflats and salt marshes intersected by a network of different creeks and were influenced by the different tides. The majority of Zeeuws-Vlaanderen consists out of this ‘New-land’. The smaller polders are mainly reclaimed after 1200 AD. These smaller polders are mainly concentrated along the creeks. By reclaiming small pieces of land along the different creeks, all kind of small new pieces of land became available. After 1550 AD larger polders were reclaimed. These polders are characterized by their rectangular allotment and their orthogonal road pattern. This grid of plots and roads is intersected by the existing pattern of the old creeks, see figure 8.3.1.5 on page 94-95. These creeks are the remains of the old tidal currents or were created during one of the floods. In many cases these floods there created ‘Wheels’. These wheels were created on the spot of the breakthrough of the dyke. The force of the water rushing through the small opening in the dyke created a large gap within the land. After the repairs the dyke was laid around the wheel creating a large circular ‘pond’. The polder intersected by the dykes and waterways and especially the old rests of the creeks can be seen as one of the characters of the landscape of Zeeuws-Vlaanderen, see figure 8.3.1.

Besides the large open plan of the polders, the sand ridges have their own allotment perpendicular on these ridges, see figure 8.3.2 on the next pages. For a long time the majority of the urban fabric was concentrated on these sand ridges and as ribbon developments along the dykes. On the crossroads of the dykes and the sand ridges small urban nodes are created. These nodes can still be found by the churches and the old buildings. A number of nodes, like Sint Jansteen and Kloosterzande, developed into autonomous villages, whereas the rest of the nodes can be considered as small villages within
**Mudflats and salt marshes**
A complex system of mudflats and salt marches, created by the different creeks and the tides.

**Small polders**
Around 1200 AD small creeks were dammed, enabling the creation of small polders, protected by the dykes.

**Large polders**
Around 1550 AD advanced technologies enabled bigger parts can be drained, creating large polders.

**Wheel**
A circular pond created by the rushing water during one of the many floods Zeeuws-Vlaanderen is faced with.

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Figure 8.3.1 The evolution and development of the landscape of Zeeuws-Vlaanderen
(illustration by: author)
the landscape. This combined image of the open polders and the sand ridges is the result of centuries of water management. Zeeuws-Vlaanderen, like the rest of Zeeland, was an area which is influenced by the tides and currents. The land was constant changed by the influences of the water. Like mentioned before, the first land reclamations date back to the 13th century. Small creeks were closed and the land between was divided into small polders. From the 16th century larger parts were reclaimed and divided into larger polders. However, there were cases where the dykes broke and the land was flooded. Cities like Terneuzen became separated island within the delta.

Some of the current settlements date back to the Roman era, although it took several centuries before these settlements were able to really develop. During the 16th and 17th century the area of Zeeuws-Vlaanderen was a part of a line of fortifications, intended to defend the Republic of the Netherlands. Settlements like Hulst and Sluis became fortified to be part of this fortification line, see figure 8.3.4. Until the 19th century the city was only able to expand within their fortifications. Large earth walls were erected in order to protect the cities and to form the defence line. This resulted in the dense urban fabric that is still visible in these cities.

After the advancements in military technologies, like better cannonc, rendered the walls obsolete, cities were able to expand outside the fortifications at the end of the 19th century. Currently, the fortifications have no prominent role in the current landscape. Many were removed over time and the ones that remained, do not differ from the many dykes that are crossing Zeeuws-Vlaanderen.

Figure 8.3.3 Zeeland during the 15th century
(illustration by: C. Weber)
Figure 8.3.4 Fortifications along the boundaries of the 'Republiek' around 1700 AD
(illustration by: F. Hessels)
Structure and morphology of the landscape

Zeeuws-Vlaanderen is characterized by four different types of landscapes. Each of these different landscapes can be described as followed;

- Mudflats and salt marches: Before the rand reclamations the majority of Zeeuws-Vlaanderen consisted out of this landscape. Currents and tides had a great influence on the landscape. Besides the network of creeks, the land is covered in a variety of vegetation. Currently, this type of landscape can found in the ‘verdronken van Saeftinge’(drowned land of Saeftinge) and ‘het Zwin’.

- Polders: The larger and smaller polders created by the different land reclamations in time. The polders are defined by the dykes and intersected by the orthogonal water- and infrastructure systems. This orthogonal system is in some polders interrupted by the remains of the old creeks.

- Sand ridges: The old sand ridges provide a smaller and a more confined character. The sand ridges can mostly found in the southern part of Zeeuws-Vlaanderen. The village of Hulst is one of the villages which is located on the edge of the sand ridges and the polder landscape.

- Dunes: in the north the majority of the border between the sea and Zeeuws-Vlaanderen consists out of the sea-dyke. In the east and the west this border is not as rigid. In the east ‘het verdronken land van Saeftinge’ provides a transition between the polder structure and the sea. In the west the dune area provides this transition.

These landscapes are mostly in the following order; sand ridges, polder and coastal area. The coastal area can consist out of a hard border, the polder divided from the sea by a dyke, a
transition by a dune area or an area of mudflats and salt marches. This pattern can be underpinned by different cross-sections. Like shown in figure 8.3.1.3 the first cross-section can be applied for the axis ‘het verdronken land van Saeftinge - Grauw - Hulst. The second can be applied for the axis Cadzand - Retranchement - Sluis. The cross-sections are not over this axis, but the principle of the order of the landscapes is applicable.

Other elements of the landscape of Zeeuws-Vlaanderen are the ribbon developments, the old remains of the creeks and the old remains of the fortifications. Combined with the different landscape typologies 6 different characters of areas can be distinguished;

- Open and empty polders: the nature and the old creeks take a central role in these polders. The organic shapes and the small scale form a nice contrast with the large scale and orthogonal patterns in the neighbouring polders.
- Open polders with characteristic developments: the large scale and the orthogonal patterns form the character of this type, combined with concentrations of farms, the developments along the dykes and streets.
- Confined unbuild areas: this consists mainly out of the small forests.
- Confined areas with mixed functions: a combination between agriculture and urban functions.
- Confined urban areas: areas where the urban functions are dominant and forms a closed structure.
- Open area outside the dykes: the areas that are not protected against the water by dykes. The land is influenced by the tides and the currents. The area consists out of water, sandbars, mudflats and salt marches.
Figure 8.3.7 The evolution and development of the landscape of Zeeuws-Vlaanderen
(illustration by: author)
8. CONTEXT OF ZEEUWS-VLAANDEREN
**Urban fabric**
The different types of landscape and the different processes that occurred in Zeeuws-Vlaanderen are reflected in the typology of the different villages. In principle there are three different basic types of villages in Zeeuws-Vlaanderen:
- Ribbon developments
- Old fortified cities
- Coastal developments
Within these categories there can be slight deviations, but the basic principle will remain. The following section is meant to explain these principles by using the different towns and villages of Zeeuws-Vlaanderen.

**Ribbon**
The ribbon development is characteristic for the urban form on both the sand ridges and in the polder. On the sand ridges the development was concentrated along the higher parts of the sand ridges, creating the characteristic ribbons. In the polder the developments are concentrated along the many dykes that are crossing Zeeuws-Vlaanderen. In most cases the urban fabric only consists out of one plot on either side of the road. On the intersection of the sand ridges, dykes and other important axes different nodes are created. On these nodes different public buildings and facilities were created.

*Schematic drawing of a ribbon development*

[Diagram of a ribbon development]

Schoondijke

**Figure 8.3.8 One of the three basic urban typologies; ribbon development**
Old fortified cities
Cities like Sluis and Hulst were a part of the ‘Frontieren van de Staat’, a defence line intended to protect the ‘Republiek’. Naturally the fortified cities became cities with a regional function. Most of the more regional functions were placed within these fortified cities. Currently the fortified cities have in general more residents and are still holding the majority of the regional functions. The fortifications that were applied at the end of the 17th century had a great influence on the pattern of the urban fabric. For a long time the expansion of the urban fabric was bound to the boundaries of the fortification. After the fortification lost its function as first protection to the city at the end of the 19th century, cities were able to develop outside the boundaries of the fortifications. The size of these expansions outside the ‘original’ city differs. The city of Hulst, for example, has many expansions outside the fortifications. On the other hand, the city of Sluis is still situated within the old fortifications. However, the structure of the fortifications is still visible in the urban fabric.
Coastal developments
Along the north and the west coast of Zeeuws-Vlaanderen there are a few villages. In the past these cities were focusing on the harbour. Breskens for example still is a small fishing-village. Also the city of Terneuzen is focused on their harbour activities. The canal of Terneuzen-Gent is an important connection to both Terneuzen and Gent. Therefore the harbour of Terneuzen could grow and currently a lot of jobs in Zeeuws-Vlaanderen that are related to the harbour activities of Terneuzen.
Besides the different urbanized areas around these harbours, there is a new market which is lately developed. The shore in the north-west of Zeeuws-Vlaanderen is quit suitable for the touristic sector. The beaches along this shore attract a lot of tourists during the summer to these locations. In order to accommodate these tourist all kind of developments are realized. This varies from small villages, like Cadzand-Bad, to small farm-campings.

*Schematic drawing of coastal developments*

Cadzand-Bad

Coastal developments
(photo: unknown)

The boulevard of Cadzand-Bad
(photo: Melissa Ruyter)
8.4 Perspective for Zeeuws-Vlaanderen

This part will focus on combining the different outcomes from the previous sections. The different outcomes will be put into two different SWOT analyses, a spatial SWOT and a Socio-Economic SWOT, see figure 8.4.1. These SWOT analyses, figure 8.4.2 and 8.4.3, will be used to create the perspective for Zeeuws-Vlaanderen. Therefore the perspective will contain the important elements of this thesis.

The different qualities of Zeeuws-Vlaanderen will be used to deal with consequences of shrinkage and the decreasing living quality. But, the shrinkage can also be used to improve the different characters of Zeeuws-Vlaanderen. The perspective will be used to set some objectives. Each municipality will get their own objectives, which eventually will result in some key projects in every municipality.

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**Part of the theoretical framework (figure 5.1)**

**Atlas of Zeeuws-Vlaanderen**
define the spatial features of the area

**Shrinkage in Zeeuws-Vlaanderen**
dealing with the changes in the social structure of the area

**Analytical tool living quality**
measuring the living quality in the different villages

**Analysis**

**SWOT**
Spatial
Socio-economic

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**Perspective**

**Objectives**

**Feasibility**
*ex ante evaluation*

**Mixed scanning**

**Projects**

---

Figure 8.4.1 Combine the different aspects into one vision
Spatial SWOT analysis
This part will focus on putting the different spatial consequences and qualities of Zeeuws-Vlaanderen collected in the sections 8.4.1, 8.4.2 and 8.4.3 into a SWOT analysis. The aim is to find different qualities that can be combined with the consequences of shrinkage to improve the living quality in the area. This same approach is used in Parkstad Limburg, see section 7.3 on page 75. Parkstad Limburg is using the shrinkage to refocus on the character of the area. Different strategies, like demolition of a specific type of dwellings, are used to ‘erase’ the various ‘mistakes’ from the past. The same strategy can be applied in Zeeuws-Vlaanderen. Zeeuws-Vlaanderen should use the effects of shrinkage to reinforce the different characters of the different municipalities in Zeeuws-Vlaanderen.

### SWOT analysis

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<th>Strength</th>
<th>Opportunity</th>
<th>Threat</th>
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<tbody>
<tr>
<td></td>
<td>- Touristical potential</td>
<td>- Natural ‘classification´ of cities</td>
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<td></td>
<td>- Axis Terneuzen-Gent</td>
<td>- Relative old housing stock</td>
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<td>- Different characters of the three municipalities</td>
<td>- High owner occupancy</td>
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<tr>
<td></td>
<td>- Near large touristical ‘attractions’</td>
<td>- Shrinkage of the total amount of households</td>
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### Weakness

|          | - The ‘Belgium Coast’ | - Shrinkage of the total amount of households |
|          | - Isolation to both the Netherlands and Belgium | - Little variation in the housing stock |
|          | - Lack of good public transport | - Lack of multiple connections to the Netherlands |

Figure 8.4.2 Socio-economic SWOT after the different shrinkage, living quality and spatial analysis
Socio-economic SWOT analysis
This part will focus on putting the different social and economic consequences of Zeeuws-Vlaanderen collected in the sections 8.4.1, 8.4.2 and 8.4.3 into a SWOT analysis. The most of the consequences of shrinkage are put into this SWOT. By combining both SWOT’s a new vision for Zeeuws-Vlaanderen can be created.

The vision for Zeeuws-Vlaanderen will focus on refocusing on the qualities and existing characters of the municipalities. Based on the combination of the two different Strength-Opportunities and Weakness-Opportunities the different Strengths-Threats and Weakness-Threats will be tried to be minimized. The combination of the Strengths-Opportunities and Weakness-Opportunities are shown in figure 8.4.4 on the next pages. Thereafter, individual visions for each municipality will be made, which eventually will be combined into one single vision for Zeeuws-Vlaanderen.

**SWOT analyse**
Socio-Economic

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<th>Threat</th>
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<tr>
<td></td>
<td>- Low unemployment</td>
<td>- Seasonal character</td>
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<td></td>
<td>- Lots of economic activity in the harbor of</td>
<td>- Lots of small scale facilities</td>
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<td></td>
<td>Terneuzen</td>
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<thead>
<tr>
<th>Weakness</th>
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<td>- Ageing population</td>
<td>- Shrinkage of the age group &lt; 30 years</td>
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<td></td>
<td>- Shrinking population</td>
<td>- Decreasing social support for facilities</td>
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<td></td>
<td>- Not much job variety</td>
<td>- High car dependency</td>
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<td></td>
<td>- Not much interaction with Belgium</td>
<td>- Low mobility</td>
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<td></td>
<td>- Shifting demand of facilities</td>
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Figure 8.4.3 Socio-economic SWOT after the different shrinkage, living quality and spatial analysis
Figure 8.4.4 Combination of the different analysis
Figure 8.4.4 Combination of the different analysis

8. CONTEXT OF ZEEUWS-VLAANDEREN
Vision Hulst
Within the municipality Hulst the majority of the urbanized areas is located in the south near the border with Belgium. These urbanized areas are currently focused on Antwerp and the south-west part of Noord-Brabant. The area north of the urbanized area is characterized by its large scale. Currently the rest of the villages of the municipality are using this large scale character mainly for agriculture purposes. Although the importance of food supply on a local scale is getting more importance, there is still little diversity. However, the large scale character creates a lot of potential for large networks and systems. When Terneuzen is focusing on biobased developments and research facilities, this large scale area in the east of Terneuzen can be used to develop biobased related developments. This will increase the difference of focus within the municipality. In order to keep the municipality livable the following objectives are determined:

- **Use the difference in character; urbanized - emptiness**
  Currently the urbanized area are located in the south near the Belgium border. In the north small villages are scattered across the landscape, see figure 8.4.5. These villages are already starting to experience shrinkage and are more likely to experience severe shrinkage in the future, see figure 8.1.3 on page 84. One of the consequences of this shrinkage is the decrease the social support for a lot of facilities. By concentrating the facilities in the urbanized area in the south, the social support is guaranteed although the area is faced with shrinkage, see figure 8.4.6. This will result in a greater shrinkage of the villages in the north of Hulst. By making good connections to the urbanized area this process can be slowed down, but the difference between urbanized and emptiness will be increased. However, this will make it possible for the area in the north to focus more on its agriculture character.
- Create diversity; new types of agriculture
Currently the area in the north is focusing on the traditional agriculture, like livestock. However, with the shrinking trend, the focus of the area can be reintepented. Currently the focus is on a mixture of urbanized area and agriculture. By focus the urbanized areas in the south by the previous step; use the difference in character on the previous page, the area in the north can focus on agriculture. However, the lack of diversity of different funtions can lead to a high vulnerability. So instead of implementing traditional means of agriculture, new and innovative types of agriculture should be implemented. For example, large fields of coleseeds can be created or solarfarms, see figure 8.4.8. But also iniatives like fishfarms can be situated in this area. The large scale character of the northern area makes it easier to implemented this new types of agriculture. A new network of these new types of agriculture should be located near the main connections to the urbanized area in the south and the axis Terneuzen-Gent.
Vision Terneuzen
Terneuzen is currently the municipality with the most ‘activity’. Besides the fact that the city Terneuzen is by far the largest city in Zeeuws-Vlaanderen, 24,845 residents (CBS, 2010), the harbour is also creating a lot of economic activity. In combination with the harbour of Vlissingen, Zeeland Seaport, the harbour of Terneuzen is responsible for 20% of the total jobs of the province of Zeeland and is facilitating 250 companies (Zeeland Seaports).

The connection by the Westerschelde tunnel to Walcheren and the connection to Belgium by the canal are also creating a lot of potential. Currently the developments along this canal are still fragmented and are not tailored to each other. However, the location between the big harbours of Antwerp and Rotterdam has already attracted some big companies to the area. Near Terneuzen for example, the company Dow Chemicals is located. Besides the the production locations in the United States, this is the largest production location of Dow Chemical in the world (Zeeland Seaports).

The municipality of Terneuzen is currently the only municipality in Zeeuws-Vlaanderen which is not isolated from both the Netherlands and Belgium. The Westerschelde tunnel and the roads in line are connecting Terneuzen to Walcheren. This connection is extended towards the belgian highways in the south, creating an axis along the canal from Terneuzen towards Gent. In this same area some of the harbours along the canal are connected to the belgian railway network. However, the railway is only used for goods transportation and not used for passanger transportation.

Figure 8.4.9 Disconnected axis Walcheren - Terneuzen - Gent, focused on harbour related developments
(illustration by: author)
- Reinforce the axis Terneuzen-Gent

Currently the harbour of Terneuzen plays an important role in the economy of Zeeuws-Vlaanderen. Big companies like Dow Chemical and Yara, a big company producing ammonia and fertilizer are already situated along the axis Terneuzen-Gent. However, the potential of the harbour of Terneuzen and especially the potential of the axis Terneuzen-Gent should be better exploited. The axis is situated near the harbours of Antwerp and Rotterdam. Since 1980 Zeeland Seaport is one of the fastest growing harbour area in Europe (Zeeland Seaport). This can be reinforced by relocate all harbour activities in Zeeuws-Vlaanderen to this axis, see figure 8.4.10. So for example, the small harbour activities of Breskens should be relocated to this axis. This is beneficial for both Terneuzen and Breskens. Breskens can redevelop the harbour area, which is more suitable with the character of Sluis. By focusing all the small harbour related activities around this axis, the economic potential of the axis become bigger.
- Focus on green (local) developments

The reinforcement of the axis Terneuzen-Gent should not only focus on harbour related developments. The new developments should also focus on increasing the diversity of the area. By creating diversity, the area is more viable over time. Currently there are some initiatives which are focusing on biobased developments. Terneuzen and Gent are testing the potential of Biopark Terneuzen and Bio-energy valley Gent. These types of developments should be encouraged, trying to create a kind of capital for bio-developments in the Netherlands. New energy sources and bio-research are likely to gain more attention, because the increasing prices and the scarcity of fossil fuels. These biobased developments can be encouraged by the potential new types of agriculture in the municipality of Hulst.
- Connect Hulst and Sluis to Terneuzen
Currently the connection to Hulst and especially the connection to Sluis are not great. Because Zeeuws-Vlaanderen is only connected by the Westerschelde tunnel to the ‘rest of the Netherlands’, Sluis and Hulst are relatively isolated from the Netherlands. Besides the physical disconnection between the different municipalities, the different characters of the three municipalities are also separating them. Therefore Terneuzen should try to connect to Sluis and Hulst on multiple levels. The infrastructure should be improved and upgraded in Hulst and Sluis, see figure 8.4.12, connecting the municipalities in a physical matter. However the different characters can also reinforce each other. The new types of agriculture character should help the biobased developments and the touristic facilities in Sluis can for example facilitate bi-conferences, see figure 8.4.11.
Vision Sluis
The municipality Sluis can be divided into two different zones; the coastal zone and the fortification zone. The coastal zone is characterized by its seasonal character. The part of the coast between Cadzand-Bad and Breskens is full of campings, bungalowparks and other touristic facilities. In fortification zone are the larger villages located. Aardenburg and Sluis were part of the defence line ‘frontieren van de staat’, described in part 8.3 on page 98. Oostburg has grown to the regional centre of Sluis.

The majority of the people of the municipality Sluis are working in the retail and the horeca, well over 30% (RIBIZ). This is also reflecting the touristic character of the municipality Sluis.

The municipality of Sluis will be used as the test case fore the interventions and strategies. This part will therefore only makes a more general vision for the municipality Sluis. In chapter 9, beginning on page 129, a more detailed vision will be made.
- Focus on triangle Brugge - Gent - Middelburg/Vlissingen

The municipality of Sluis has a lot of touristic potential. Besides the historic fortified cities like Sluis and Aardenburg, the geographical position between the triangle Brugge - Gent - Middelburg/Vlissingen makes it possible to make different city trips to these touristic cities, see figure 8.4.17. This requires a good connectivity of the municipality of Sluis to both Belgium as Walcheren. The upgraded connections towards the axis Terneuzen - Gent will improve the mobility, but this will not be sufficient. Multiple good connections to the different areas should be made in order to facilitate the different touristic facilities.

Figure 8.4.18 Different possible city trips (photos by: unknown)

Figure 8.4.17 Geographical located near Brugge, Gent and Middelburg/Vlissingen (illustration by: author)
Connect the ‘Belgian Coast’ with the coast of Zeeuws-Vlaanderen
Not only the historic cities in the area and in the neighbouring areas has a lot of touristic potential, but also the coast of the municipality of Sluis. There is already some touristic activity in this coastal area, including multiple campings and bungalows. However, just across the belgian border there is a lot more touristic activity along the coast. Last year only 238 000 people visited the entire Zeeuws-Vlaanderen area. The Belgian coast was visited in the same year by more than 5 million people. Instead of stopping the Belgian coast in Knokke, just across the belgian border, the coast of Zeeuws-Vlaanderen should be a part of this touristic area along the coast, see figure 8.4.20.
OBJECTIVES ZEEUWS-VLAANDEREN

**Municipality Hulst**

- Create diversity; new types of agriculture
- Use the difference in character; urbanized - emptiness

**Municipality Terneuzen**

- Connect Hulst and Sluis to Terneuzen
- Focus on green (local) developments
- Reinforce the axis Terneuzen-Gent

**Municipality Sluis**

- Focus on triangle Brugge - Gent - Middelburg/Vlissingen
- Connect the ‘Belgian Coast’ with the coast of Zeeuws-Vlaanderen

Vision Zeeuws-Vlaanderen

By combining the different visions of the different municipalities, one general vision for Zeeuws-Vlaanderen can be generated. The combination of these visions are represented in figure 8.4.21 on the next pages. This vision should be used in the municipalities Hulst and Terneuzen to face the challenges of shrinkage, but the shrinkage should also help to reinforce the identity and character of these municipalities. This strategy should also be applied for the municipality of Sluis. In order to find specific interventions and strategies the next chapters will zoom in on the municipality Sluis. The objectives and the different focuses stated in this chapter will be used to generate a more specified vision for the municipality of Sluis.
Figure 8.4.21 Vision for Zeeuws-Vlaanderen
Figure 8.4.21 Vision for Zeeuws-Vlaanderen

### 8. CONTEXT OF ZEEUWS-VLAANDEREN

**LEGEND**
- Character of Sluis
- Character of Terneuzen
- Character of Hulst
- The Belgian Coast
- Break the isolation
- Touristic facilities
- Off-season touristic facilities
- Bio bases developments
- Bio bases developments
- Traditional types of agriculture
- New bio-types of agriculture
- Concentrate urbanization
- Axis Terneuzen-Gent
- Functionally and physical connections
- Functionally and physical connections
CHAPTER 9

Vision for Sluis

What kind of interventions and strategies should Sluis apply to use the shrinkage?

9.1 Setting the scene

9.2 Context touristic Sluis

9.3 Coastal area Sluis
9. Shrinkage in the municipality Sluis

This chapter will specifically focus on the strategies and interventions planned for the municipality of Sluis. The chapter will continue from the more general and regional interventions proposed in section 8.4.4. However, this chapter starts with an introduction, which will give a better insight of the current conditions and the expected conditions as a result of the shrinkage. The focus will be on drawing the perspective of the municipality Sluis without proper interventions and strategies. The second section will focus on the two objectives proposed in section 8.4 on page 109. Both the objectives are focusing on the touristic character of the municipality Sluis. In order to make a more detailed vision, the touristic facilities within the municipality will be examined. However, the influence of the touristic facilities near the municipality Sluis should also be analyzed. An important factor in this vision is the coastal area between Cadzand and Breskens. The third section will focus on this area and will propose some interventions and strategies. On the one hand these interventions and strategies are focused on increasing the living quality, but on the other hand using the shrinkage to reinforce the character of the area.

Figure 9.1 The municipality Sluis

Aerial view on the municipality of Sluis
(photo: Google maps)
9.1 Conditions within Sluis
The municipality of Sluis is expected to experience the most shrinkage within Zeeuws-Vlaanderen. In the short term prognosis the population decline within Sluis is limited to 3.3%, but in the long term prognosis the population of the municipality Sluis is expected to decline with 2531 people, a decline of 10.5%. Besides the population decline, the population structure is also changing. Like shown in figure 9.1.1 the ageing of the population is already occurring in the municipality Sluis and will continue within the next 20 years. The age group 61-80 years is growing, while the rest of the age groups are stable or even shrinking. Like discussed in section 8.1 on page 89 these changes in the population structure are caused by the natural process of ageing inflicted by the ‘babyboom’ after the Second World War and the process of ‘braindrain’ within the municipality. The combination of the overall decline and the changes in the population structure are having an effect on the living quality. The greatest threat pertaining to the living quality is the decline and the changes of the public support for certain facilities. This can be divided into three different categories. The first category is the effects of the overall population decline. This will affect the public support for general facilities like shops and supermarkets. The second category is due to shrinkage of a certain age group. For example, the decline of the amount of the primary school pupils will cause the closure of a number of elementary schools, resulting in a decline of the living quality in the area. The final category is the growth of a certain age group. In this case this is and will be within the next 20 years the age group > 60 years. This will require different facilities. For example, the healthcare facilities have to be adapted to the ageing population. If the necessary interventions are not applied to the area, the living quality will decrease in the area.
Besides these possible effects on the living quality, in section 8.2 on page 93 the current analysis of the living quality already determined that the categories accessibility, the housing stock and the healthcare are causing a decline of the living quality. However, between the different villages in the municipality of Sluis is also a difference in the living quality. The larger villages are in general scoring above the average of the municipality of Sluis and the smaller villages below the average, see figure 9.1.2. A complete overview of the current living quality is included in Appendix B. The shrinkage will first affect the living quality in the small villages, which is already quite low. Most of the villages are already depending on facilities located in surrounding villages, see figure 9.1.3. Nevertheless, these minor issues are currently ‘solved’ by the character of the current residents.

Figure 9.1.2 Different conditions within the different villages
(data from: SCOOP, RIBIZ, KvK, SYSWOV, municipalities Sluis, Terneuzen and Hulst, websites of societies)
Many adults rely on their car and the majority of the children are used to cycle. In the small villages the social support is already minimal and within the next 10 years the most of the facilities within these villages will be too small to keep the facilities running. The larger villages will be faced with the same problems within the next 20 years. This will result in a closure of a whole range of facilities within the different villages in the municipality Sluis, see figure 9.1.4. These issues can be solved by clustering different facilities on different locations. However, this requires an accessibility of the

Figure 9.1.3 Different facilities within the municipality Sluis
(data from; SCOOP, RIBIZ, KvK, SYSWOV, municipalities Sluis, Terneuzen and Hulst, websites of societies)
villages and a great mobility of the residents. The accessibility of the most of the villages is already lacking and the mobility of the residents will only get worse by the ageing population. This requires tailor fit interventions and strategies to keep the living quality and a good range of facilities within an acceptable range.

Figure 9.1.4 The decreasing social support for the different facilities will result in the closure of facilities (data from; SCOOP, RIBIZ, KvK, SYSWOV, municipalities Sluis, Terneuzen and Hulst, websites of societies)
9.2 Context touristic Sluis

In the vision for the municipality Sluis in section 8.4 on page 109, one of the objectives is to focus and reinforce the touristic character of the municipality Sluis. This section will place the municipality of Zeeuws-Vlaanderen within its touristic context. First the geographical position of Sluis will be analyzed. The current types of touristic accommodation within the municipality but also within range of the municipality will be examined. Statistics like the amount of hotels and the amount of tourist will be compared with other areas and cities like Brugge and Walcheren. The outcomes from this section will be used in the next section to propose different interventions and strategies.

Starting point
The starting point is the difference between the north and the south in the municipality of Sluis. In the north the seasonal character along the ‘Belgian Coast’ could be extended into the municipality of

Figure 9.2.1 Part of vision for Zeeuws-Vlaanderen, part of the municipality Sluis
Sluis, see figure 9.2.1 on the previous page. In the south of the municipality the focus should be on the historic cities of Sluis and Aardenburg, but should also focus on the historic cities of Brugge, Gent, Middelburg, Vlissingen and other historic cities within Zeeuws-Vlaanderen. Both types of touristic activities acquire a good connectivity to these areas. This will make it easy for tourists to visit the area, but also other neighbouring areas. Currently, the municipality of Sluis has a few low quality connections to other neighbouring areas. However, the potential market reach of Sluis is 100 million people (KvK Zeeland). This means that within a day driving, approximately 100 million can visit the area, see figure 9.2.2. However, this requires a good internal and external connectivity. The lack of this connectivity is also reflected in the actual amount of visitors of 2009. In 2009 only 238 000 people visited the Zeeuws-Vlaanderen area, see figure 9.2.4. Compared to the neighbouring areas, there seems to be a lot of potential to increase the amount of visitors. Better connected areas like Walcheren attracts almost the double amount of visitors. Also cities like Brugge and Gent are attracting more visitors. However, the total days spent in Zeeuws-Vlaanderen is showing a better image. Especially compared to the cities of Gent and Brugge, Zeeuws-Vlaanderen accommodates many tourists. Although the difference between the amount of tourists in Zeeuws-Vlaanderen and Gent is almost 700 000 tourists, the total amount of days spend in the area is almost equal, see figure 9.2.4. This is represented in the average stay of the arrival;

Average duration of the arrival
- ‘De Kust’ 6,5 days
- Brugge 1,8 days
- Gent 2,1 days
- Walcheren 6,4 days
- Zeeuws-Vlaanderen 7,2 days

The average duration of the arrival also reflects the
different characters of the area. The cities Gent and Brugge are visited for a much shorter period. This is partly caused by the different types of arrivals in these cities. Unlike the other areas Brugge and Gent also has a lot of arrivals related to business activities. But also the touristic arrivals are visiting these cities for a shorter period compared to the other areas. The character of other areas, ‘De Kust’, Walcheren and Zeeuws-Vlaanderen, are quite similar, they only differ in scale. However, Zeeuws-Vlaanderen is leading in the average duration of the arrival. Apparently the people who visit the area, visit the area for a longer period.

**Use of accommodations Zeeuws-Vlaanderen area**

Amount of arrivals
(total amount x 1000)

- ‘De Kust’: 5 067.3
- Brugge: 936.3
- Gent: 382.9
- Walcheren: 419
- Zeeuws-Vlaanderen: 238

Amount of stays
(total amount x 1000)

- ‘De Kust’: 32 858.6
- Brugge: 1 731.1
- Gent: 805
- Walcheren: 2 690
- Zeeuws-Vlaanderen: 1 720

Figure 9.2.4 The use of touristic facilities in the different areas
(data from: kenniscentrumtourisme; toerismeVlaanderen; Westtour; VVV; gent-hotels.eu)
The difference between the amount of arrivals is, besides the connectivity, also dependent on the amount of touristic facilities within the area. For indicating the total amount of touristic facilities, a combination of the total amount of hotels and campings is made. This is mainly based on the two different characters of the different areas. In cities, like Gent and Brugge, the main touristic facilities are the total number of hotels, but in the touristic coastal areas, like Walcheren, a large amount of tourists will stay on the many campings.

Also in the type of touristic accommodations the character of the different areas is reflected. The cities of Gent and Brugge barely contain any campings, unlike the other areas which contain both hotels and campings, see figure 9.2.6.

Like in the case of the amount of arrivals and the amount of stays ‘De Kust’ contains more hotels and more campings than the rest of the areas. However, the total touristic accommodations of Gent are less than the total touristic accommodations of Gent, although Gent is visited by more tourists than Zeeuws-Vlaanderen. In order to make a good comparison between the areas, the average amount of days spent per accommodation will be made;

Average amount of days spend per accommodation;

- ‘De Kust’ 80 733 days
- Brugge 16 645 days
- Gent 28 750 days
- Walcheren 24 455 days
- Zeeuws-Vlaanderen 22 631 days

‘De Kust’ is also leading in this category. However, in ‘De Kust’ area are a lot of other different types of accommodations which are not present in the other areas. If we take all these accommodations into account, there are still 54 222 days spent per accommodations. If Zeeuws-Vlaanderen is compared to the other areas, there is still room for improvement.

A better way to get a more accurate indication should be acquired by calculate the average amount of days spent per accommodation units. However, this kind of data is limited.
Accomodations Zeeuws-Vlaanderen area

Number of Hotels (total amount)

- ‘De Kust’: 304
- Brugge: 102
- Gent: 27
- Walcheren: 65
- Zeeuws-Vlaanderen: 37

Number of campings (total amount)

- ‘De Kust’: 103
- Brugge: 2
- Gent: 1
- Walcheren: 45
- Zeeuws-Vlaanderen: 39

Figure 9.2.6 Total amount of touristic facilities in the different areas
(data from: kenniscentrumtourisme; toerismeVlaanderen; Westtour; VVV; gent-hotels.eu)
Touristic accommodations in the municipality of Sluis

The next step is to concentrate on the municipality of Sluis. The amount of touristic accommodations in Zeeuws-Vlaanderen is known, but not yet for the municipality of Sluis. If we take a look to the amount of touristic facilities in figure 9.2.7 and also the location of the different touristic accommodations, we can see a clear distinguish between the north and the south of the municipality Sluis. Along the coast...
in the north, almost all the campings are situated and in the south some hotels are situated in the historic cities of Aardenburg and Sluis. This gives the municipality Sluis two different characters. In the north the coastal area can be compared with ‘De Kust’ in Belgian. A chain of small villages are situated surrounding the touristic activities in this area. The southern area consists out of larger villages, which are not directly influenced by the touristic developments in the north. In order to reinforce these different characters, both the areas should get better internal and external connections to the neighbouring areas. This would not only reinforce the character, but is also improving the mobility of ‘the locals’, improving the living quality in the area. The area in the north will greatly benefit from these improved internal connections. The lack of a greater village nearby, makes it hard to concentrate facilities in one place. As a result of the shrinkage, the public support for many facilities will be decreased within many of these villages. By making a strong connection between the different villages, the social support will be increased, making it easier to concentrate the facilities on different locations.

In the southern area the historic cities and the village of Oostburg are already functioning like regional nodes. As a result of the shrinkage, the social support in this area will decrease, but not as great like in the north. However, the surrounding villages
which already depend on these regional nodes, will be more dependent on them. Also in this case the improved internal connections will create a higher mobility in this area, improving the living quality in these areas. The principle of the STAGG-model will be applied to this area, see figure 9.2.9. The three regional nodes, Sluis, Aardenburg and Oostburg, will act like the central node in this system.

The same difference can be made within the touristic potential of the northern and southern areas within the municipality Sluis. In the north the internal potential focus should be on the touristic developments along the coast. By focusing on the touristic developments, the same image will be created along the ‘Belgian Coast’. Basically the ‘Belgian Coast’ will be extrude towards Breskens, creating one continuous stroke of coastal developments from De Panne to Breskens, see figure 9.2.10. The area in the south is mainly dominated by the historic cities of Sluis and Aardenburg, like Brugge has the same role compared to the ‘De Kust’. This area should focus on the potential of a great variety of city trips within short range, see figure 9.2.10.

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**Figure 9.2.9 Relation between the regional node**
(illustration by: author)

**Figure 9.2.10 Different touristic strategies**
(illustration by: author)
9.3 Coastal area Sluis

One of the important interventions will be located along the coast from the municipality of Sluis. The area between ‘t Zwin, near the border between the Netherlands and Belgium, and the village Breskens is already an area with touristic developments and touristic activity. In the previous section, section 9.2, the strategy for this area consisted out two elements;

- Create a chain of the several small villages
- Reinforce the touristic activities

Currently the coastal area is quite fragmented, see figure 9.3.1. The different types of developments are placed within the landscape without a clear structure to it. Between the two coastal developments Cadzand-Bad and Breskens are different types of developments with unclear transitions between the developments. A broad amount of campings, bungalows, nature and polders are dominating the image of this area. All the villages between Cadzand-Bad and Breskens are not situated on this line, but are set back from the coast. The creation of the chain of villages and the reinforcement of the touristic activities in the area should bring structure within the area. This structure should connect to the structure along the ‘Belgian Coast’. The ‘Belgian Coast’ currently stops at the ‘t Zwin. At the same time ‘t Zwin is the starting point of the new coastal area of the municipality of Sluis. ‘t Zwin is characterized by its diversity in nature (www.natuurkaart.nl). In the municipality the natural areas along the coast are currently fragmented. There are some little natural areas, like the Zwarte Polder, see figure 9.3.1. However, there is no system what so ever.

Leipzig used the shrinkage to redevelop the greenbelts and to integrate the nature into the city. The same reasoning can be used to meet the objectives by making an integral network of nature along the coast. This area will make it possible to create the strong ‘chain’ between different villages and could also be used to reinforce the touristic activities within the area. So instead of having a vertical coastal defence from Cadzand-Bad to

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Figure 9.3.1 Current image of the coast of the municipality Sluis (illustration by: author)
Breskens, a horizontal coastal defence should be realized. Within this area a mixture of different functions should be realized. Things like:
- the ‘chain’ between the different villages
- the touristic activities
- the touristic developments
should be realized within this area connected by the natural developments.
This project could also some issues in the other municipalities of Zeeuws-Vlaanderen. With the deepening of the Westerschelde, the European Union demands some kind of nature compensation. Instead of flooding one of the polders near ‘het Verdrongen land van Saeftinghe’ in the municipality Hulst, the nature compensation could be realized in this new coastal area. This nature compensation could trigger some new kind of touristic activities in the area, which creates more diversity within the touristic sector.
Current coast stroke; Green structure
Like shown in figure 9.3.1, the green structure between ‘t Zwin and Breskens is very fragmented. Some areas only consist out of a small beach area with the sea-dyke, but other areas consist out of wider band of nature along the coast, see figure 9.3.4. These areas can be defined into three different areas;
- Dune area, see figure 9.3.5
- Mudflats and salt marches, see figure 9.3.2
- Old remains of a creek, see figure 9.3.5.
However, these areas are not connected with each other. One of the objectives for the new horizontal coastal defence is to connect these different natural areas with each other.

Figure 9.3.4 Fragmented green structure along the coast
(illustration by: author)
Current coast stroke; Chain of villages

The coastal area contains different villages. Like described in section 8.3 on page 98, the different villages have different basic principles;
- Cadzand-Bad; Coastal development
- Cadzand; Ribbon development
- Nieuwvliet; Ribbon development
- Groede; Ribbon development
- Breskens; Coastal development

The biggest village in this area is Breskens with 4752 residents. The other villages are small and are not containing more than 1100 residents. In order to create more social support, the villages have to be cooperating in order to keep the social support when these villages are faced with the shrinkage. Like shown in figure 9.2.6 on page 137 these villages should have good connections with each other.

Figure 9.3.7 The old fishing village Breskens
(photos by: Melissa Ruyter)

Figure 9.3.6 Variety of small village without proper connections
(illustration by: author)
Current coast stroke; campings
Like shown in figure 9.3.8, the coastal area is scattered with a lot of campings. The larger campings are in general situated near the dune area and the beaches. Near the villages the smaller campings and the ‘boerencampings’ (in English: farmer-campings). One of the objectives in section 8.4 on page 109 was to reinforce the character of the municipality. The horizontal coastal defence will create new potential locations for touristic developments.
New coastal zone
The new coastal zone should include a diversity of functions. The new area could accommodate, see figure 9.3.10;
- new touristic developments
- new touristic activities
- nature compensation foot the deepening of the Westerschelde
- the connection of the different nature areas
- the new improved connections between the different villages

In this vision there are some guidelines to improve the touristic character and to cope with the shrinkage.

- Touristic developments; The more permanently touristic developments, like bungalows, should be located near the existing village. By placing these permanently touristic near the villages, the connection between the different coastal nature areas is stronger and at the same time the bungalows can improve the social support, which is threatened by the shrinkage, in the different villages. Also an interesting point of view is the introduction of ‘health tourism’. The facilities which are created for this type tourism can also be used by the ageing population of the municipality Sluis. The new campings should be placed within the new nature along the coast. Unlike the existing campings, the new campings should blend in with nature, see figure 9.3.11. So when the campings are closed outside the holiday season, the campings become a part of the connection between the nature.

- New improved connections between the different villages; The improved connections are created for double use. During the holiday season the
Figure 9.3.11 Different types of touristic developments which are only used during the holiday season
(photos by: unknown)
improved connections are used to increase the touristic potential of the area. But outside the holiday season the improved connections are used to create the chain of the different villages. These improved connections consist out of four different types of connections:
- road structure
- bicycle path structure
- footpath structure
- public transport structure
The improvement of the road structure is already placed within the improvement of the infrastructure on the regional scale of Zeeuws-Vlaanderen. The connection to the municipality of Terneuzen and the Belgian cities in the south, see figure 9.2.1 on page 133.
The new and improved bicycle paths should focus on the double use. During the holiday season the network of bicycle paths should run along the different touristic hotspots, see figure 9.3.12. However, the ‘locals‘ should use the bicycle paths to travel easily within the region. The same principle should be applied for the footpath structure.
The most important connection within this vision is the implementation of a good public transport system. This system should decrease the car dependency, especially for the age groups < 18 years and > 70 years. More importantly, the public transport system should increase the mobility, which would improve the living quality in the area. This will makes it much easier to create the chain of villages. The only question which is raised, is what kind of type of public transport should be used to make this strong connection. The connection should act like a lifeline for the different villages in the area, securing the vitality and liveability of the area.
It could be interesting to test the possibility of the continuation of the ‘Kusttram‘, which is currently running along the ‘Belgian Coast’. The next chapter is focusing on testing the potential of the continuation of the ‘Kusttram’.

Figure 9.3.12 Double use of the bicycle network
(illustration by: author)
CHAPTER 10

HOW?
How can the tramline Breskens-Knokke be implemented?

10.1 Re-introduction of the tram within the public transport network

10.2 The case of the ‘Belgium Coast’

10.3 Why is it necessary in Sluis?

10.4 How could the investment of the tramline be realized?

10.5 How should the tram be implemented in Sluis?
10. Tramline Breskens - Knokke

Like mentioned in the previous chapter, the internal and external connections of the municipality of Sluis are crucial for maintaining the living quality. In order to reduce the car dependency and to create a high mobility of children and elderly, one of the connections is the public transport. In the ‘Belgian Coast’ this connection is made by the ‘Kusttram’. This tramline runs down the entire belgian coast, connecting the different coastal developments with each other. This chapter will focus on extruding the principle of the ‘Kusttram’ from Knokke to Breskens. This will start with the principle of re-introducing the principle of trams within the urban fabric. Next the ‘Kusttram’ will be examined a little closer, followed by the neccessity of a tramline in the municipality Sluis. Before the implementation of the tramline Breskens - Knokke is examined, a general overview of the different investors is made.

10.1 Re-introduction of the tram within the public transport network

During the last decades there are numerous cases were the (re)implementation of the tramline is used in different European cities. In French for example, many large cities are bringing the tram back within the urban fabric. These trams were back in the 19th century an important form of public transport. After the Second World War the tram lost its position to the car and buses. The advanced technology and the easy way of how the bus can be implemented in the urban fabric caused the disappearance of the tram in many cities. Investments were made in the road infrastructure. However, the congestion of many cities and the environmental factor of buses and cars caused the re-evaluation of the current public transport systems. Cities like Bordeaux,
Strasbourg and Lyon have developed tramlines for the last years. Still cities in France are still planning to extend the tram networks in the future (Labbouz and Diab, 2007). One of the reasons of the re-emergence of the tramline is the environmental benefits. Compared to other transport types, the tram is more sustainable. Since they are electrical powered, air and noise pollution are kept to a minimum. Therefore the tram is also getting more attention in European mobility policies. By creating a good public transport network the need to travel and the reliance on private transport is reduced (Hine et al., 2005). Currently, the dependency on private car use is high in Zeeuws-Vlaanderen. This is not only caused by the scattered urban structure, but also on the limited public transport network. However, during the beginning of the 20th century Sluis also contained several tramlines. All these tramlines were connected to the Belgian tramline network. However, all the Dutch tramlines were closed at the end of the 1940s. In Belgium a part of this tram-network remained and is still functioning, the ‘Kusttram’ (Coast tram). The ‘Kusttram’ runs along the entire Belgium coast, from Knokke near the Dutch border till De Panne near the French border. This makes it the longest tramline of the world, almost 67 kilometres. During this 67 kilometre the tramline contains 69 stops, which makes it a 2 hour and 23 minutes ride from Knokke to Panne. The ‘Kusttram’ is still gaining popularity. In 2002 almost 3.2 million people used the tram, but in 2008 well over 12.1 million people used the ‘Kusttram’. The ‘Kusttram’ is not only used by the ‘locals’, but is also used by the many tourists who visits the Belgium coast during the summer. This model of ‘double use’ of the tramline can also be implemented in the case of Zeeuws-Vlaanderen.
10.2 The Belgium Coast
Partly driven by the development of the ‘Kusttram’, the Belgium Coast can be perceived like a ‘linear city’. Like Arturo Soria y Mata designed the first linear city in Madrid, figure 10.2.1 (Collins, 1959), the ‘Belgium Coast’ can be perceived as an elongated urban formation, focused around and along the ‘Kusttram’. The concept of the linear city was originally made in the late 19th century by Mata to prove that cities of over 1 million people could have a good living quality. In order to provide the decent living quality a fast mass transit system was needed to link different neighbourhoods with each other, but also different cities with each other. Urban developments were focused around these connections, placed within a series of functionally specialized parallel sectors. Whenever the city needed to expand, additional sectors would be added at the end of each band. This would make the city become even longer, without growing wider. When this concept was introduced, the speed of the mass transit systems was only 30 km/hours, making it impossible to create cities in excess of 30 kilometre.

This same principle of the linear city can be recognized in the case of the ‘Belgium Coast’. The entire ‘Belgium Coast’ is one linear city, consisting out of different sectors, each containing their own character and strengths, see figure 10.2.3 on the previous page. In the case of the ‘Belgium Coast’ the tramline is functionally create the link between transport and urbanism and have a great influence on the urban fabric at the same time (Labbouz and Diab, 2007). The tramline makes it possible to create Transit Oriented Developments (TOD). TOD’s can consist out of different elements, for example a regional node containing a mixture of uses. The great benefits of TOD’s is the greater mobility and more stable property values (Newman and Kenworthy, 1999). These elements can be used in the case of Zeeuws-Vlaanderen. However, the tramline is also increasing the living quality and the social support for different facilities (Galser et al., 2008; Newman and Kenworthy, 1999).
By linking the different villages which each other, the social support of the area can be increased creating a network city. Besides the increased social support, it also enables villages to focus on a few facilities, instead of trying to keep every facility within the village. This will shift the focus from the quantity of facilities to the quality of facilities. The decrease of the living quality and the social support are elements which are threatened by the shrinkage in Zeeuws-Vlaanderen. The tramline could help to limit the consequences of the shrinkage, making it one of the possible solutions to face the shrinkage in Zeeuws-Vlaanderen.

However, the Belgium coast cannot be compared with the coast of Zeeuws-Vlaanderen. The character of the Belgium Coast can be divided into several pieces. Large urbanized areas, like Knokke and Brugge, are located near the border with the Netherlands. This is followed by a large dune area, which is focusing more on recreational and touristic activities. Between this large dune area and the dune area near the French border, another coastal urbanized area, Oostende, is located.
10.3 Why is the tramline necessary?
The implementation of the tramline in the structure of the municipality of Sluis is serving multiple goals;

- The first goal is to connect the different small villages to each other. By connecting the different villages to each other with the tramline, these ‘locals’ can use the tram to travel fast and easy between the different villages.

- The second goal is by making the tramline, it would make it a lot easier to give each village a focus on one facility instead of trying to keep each facility. By creating this ‘chain of facilities’ the quality of the facilities can be easily maintained and kept available.

- The third goal is to embed the area in its location. Currently Sluis is isolated by boundaries on two sides. The first boundary is the border between the Netherlands and Belgium in the south-west and the south. In practice this borderline still acts like a border, only permitting minimal interaction between the two areas, for example the primary school students. The second boundary is the Westerschelde in the north and the north-east. By making this connection, the missing link in the current system will be filled in, creating a strong network which connects to the municipality, Belgium and Walcheren.
- The fourth goal is to reduce the car reliance in the region. There is still a ferry between Vlissingen and Breskens, but with the completion of the Westerscheldetunnel the car services are suspended. It is only possible to take a bicycle with the ferry. By connecting Breskens with the ‘Kusttram’, it would be possible to travel easy by public transport to the municipality Sluis.

- The fifth goal is increasing the touristic potential of the area. By linking the area to both Walcheren and ‘De Kust’, Sluis could benefit from the touristic potential of both regions. The interaction with both areas will also create more diversity in the type of the tourism, making it less dependeddd on the coastal area.
10.4 How could the investment of the tramline be realized?

The implementation of the tramline between Knokke and Breskens is a huge investment. This raises the question who is willing to invest in this area. The greatest strength of the tramline is the fact that the tramline is serving multiple purposes. A partnership between different private and public organisations which will be involved in the development of the tramline will create a big support. Every organisation has an interest in the area and will benefit from the tramline.

Private investors:
- The ‘local fund’; One of the greatest assets is the potential local use. By making it easier for the inhabitants of the multiple villages along the tramline to travel, each village can benefit from its potential. The tramline will act like a lifeline of these villages, making it logical for the locals to invest in this tramline like in other cases like the ferry, EVT, between Vlieland, where the residents partly own the ferry.
- Tram company; A partnership with the future tramline operator should be made. It is possible that one of the first options is to try to make a partnership with the Belgium tramline operator, ‘De Lijn’.
- Local touristic sector; the local touristic sector will also benefit from the connection to Vlissingen en the Belgium Coast.
- Fund of potential land sale; the realisation of the tramline will also create potential sides for developments (Galser et al., 2008). The profit gained by the sale of potential the sides should be used to the development of the tramline.

Public investors:
- The municipality Sluis; The realisation of the tramline will help to keep the living quality up (Galser et al., 2008). Besides this, the tramline will also enables the municipality to create a ‘chain of facilities’, giving each village a few facilities of a high quality, instead of all facilities with a low quality. The money saved by closing some of the facilities in some villages, should be used for the development of the tramline.
- The province of Zeeland; The realisation of the tramline will create a better connection of Zeeuws-Vlaanderen to Walcheren and the connection of Zeeland to Belgium. The tramline will also improve the entire public transport network in Zeeland.
- Dutch government;
  - Sustainable public transport; the tramline will decrease the reliance of the car-use in the area and the reliance on old means of public transport, like busses.
  - Fund for shrinking areas; The Dutch government should consider using grants to keep the shrinking areas liveable.
- European Union;
  - Sustainable public transport; the tramline will decrease the reliance of the car-use in the area and the reliance on old means of public transport like busses.
  - Fund for flora and fauna; by making the realisation and the horizontal coast defence an integral project, the tramline can also be financed by making use of grants of the European Union. The horizontal coast defence can also be part of the nature restoration caused by the deepening of the Westerschelde.
Scheme of investors

- Local touristic sector
- Tram operator
- Private investors
- Fund of potential land sell
- The ‘local fund’
- Municipality Sluis
- Sustainable public transport
- European Union
- Fund for flora and fauna
- Fund for shrinking areas
- The province of Zeeland
- The Dutch government
- Tramline Breskens-Knokke

The Dutch government Fund for flora and fauna
The province of Zeeland
10.5 How could the investment of the tramline be realized?

The tramline between Knokke and Breskens can be implemented on different ways. The most logical way is to extend the principle of the ‘Belgian Coast’ along the coast of Zeeuws-Vlaanderen, see figure 10.5.1. The advantage of putting the tramline along the coast is during the summertime. The many tourists can use the tramline to travel between the different touristic attractions along the coast. However, unlike the ‘Belgian Coast’ 3 out of 5 villages are located just outside the shore line. These villages have to be connected by road, bicycle path and footpath to the tramline which is located 1 - 1.5 kilometres further away. So during wintertime the tramline is located near touristic developments, which are very quiet, while the ‘locals’ have to take an effort to use the tramline. Considering the fact that the tramline should function both for the tourists and the locals, another concept will be used. Because the ‘locals’ are using the tram throughout the year, the tramline should be located near or even through the different villages, see figure 10.5.2. By placing the ‘solid’ touristic developments near the villages, these touristic developments are naturally connected to the tramline. The other touristic developments in the coastal area should be connected by bicycle path and footpath to the tramline. Another advantage of placing the tramline near the villages is the continuation of the nature network. Otherwise the tramline could have intersected the nature structure, while one of the objectives was to connect the different nature areas.

The tramline will create one touristic area along the coast, stretching from De Panne near the border between France and Belgium. The differences between the different areas along this tramline should be maintained and even tried to be reinforced. Currently, the ‘Belgian Coast’ is already
analysed and characterized, see figure 10.5.3. For the new part from Knokke to Breskens every village should also have its own character. These characters should differ from the ‘Belgian Coast’ near the border between the Netherlands and Belgium. By creating different characters, the new coastal area in the municipality of Sluis does not have to compete, but is complementary on the existing touristic program.

In combination with the new nature structure and their own character, the villages should focus on leisure, see figure 10.5.4. For example, the village of Breskens has a rich history with fishing and the sea. By removing the current harbour activities to the axis Terneuzen - Gent, new areas can be used to extend the marina and create a leisure port.
The new tramline from Breskens to Knokke is about 22 kilometres. Along this new tramline 15 stops will be developed. The trip from Breskens to Knokke will take about 44 minutes, during the holiday season. However, outside the holiday season the tram is not stopping at 5 stops, reducing the travel time between Breskens and Knokke to 39 minutes. During the holiday season the tram will run 4 times every hour and during the winter the schedule will be adapted to the ‘locals’. For example, in general the tram will run outside the holiday season 2 times every hour, but during the start of the schools, the tram should run 3 times per hour.

During the holiday season the tram should also be equipped to handle the many tourists and the different needs of the tourists. It should be possible to travel with the bicycle with the tram and it should also be possible to travel easily with luggage see figure 10.5.6. By taking this kind of measurements, the area will be very accessible for tourists. This will create a lot of support for the new touristic developments in the coastal area.

The crucial part of the tramline is the amount of people that would use the tramline. By connecting to both the tramline in Belgium and the ferry to Vlissingen, and its extend the railway, interaction between the neighbouring areas should be guaranteed. Nevertheless the current potential of the tramline will be around the 23 000 people outside the holiday season. The potential of the Belgian part of the tramline is included. However, during the summer this is increased by the number of tourists. This will increase the potential amount of people that would use the tramline to 260 000 people during the holiday season. However, the shrinkage will result in a decrease of the potential to 22 500, especially outside the holiday season. The decrease of the potential is limited by the growth of the potential in the belgian part of the tramline. Howver, the tramline is helping to keep the living

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Figure 10.5.5 Scheme for new tramline
(illustration by: author)
quality in this coastal to a decent level. During the holiday season is still some room to increase the potential of the tramline. With the new touristic developments in the coastal area, the potential of the tramline can also be increased. The increase of the potential and the touristic developments are interacting which each other. The more touristic developments are creator, the greater the increase of the potential will be. But if the potential of the tramline is increased substantial, the touristic developments will automatically follow.

The most important effect of the tramline will be the positive effect on the living quality. The category accessibility will be greatly improved by the improved connections between the different villages, by road, bicycle path, footpath and the tramline. This will enable the creation of the ‘chain of villages’ and its extend the ‘chain of facilities’, see figure 10.5.7. This will give more public support for a specific type of facility in the coastal area and by focusing one type of facility on one location, the quality of the facility can be gauranteed without isolating some of the facilities.

In order to define which facilities should be placed in which village, the analysis of the living quality of the current situation can be used. In this analysis the different facilities within the different villages are analysed. The folowing categories of the analysis of the living quality will be used to determine the location of the different facilities, see Appendix C;
- Cultural facilities
- Sport facilities
- Education
- Variety of shops and services
- Horeca and leisure
- Healthcare

This will result in the location of the following chain of facilities, see figure 10.5.8 on the next page.
Cadzand, touristic centre
- Different cultural facilities
- Townhouse
- Daycare
- Primary school
- Indoor and outdoor facilities
- Variety of shops
- Service point of postoffice
- Variety of bars and restaurants
- ‘Small healthcare centre

Groede, coupler Oostburg
- Special arrangement secondary school
- Only outdoor sport facilities for youth
- Mobile supermarket
- Paintball
- Small local tavern

Nieuwvliet, elderly centre
- Elderly society centre
- Elderly sport centre
- Mobile supermarket
- Bowling centre
- ‘Care dwellings’

Breskens, Regional centre
- Different cultural facilities
- Connection to Vlissingen
- Daycare
- Primary school
- Indoor and outdoor facilities for all ages
- Variety of shops
- Service point of banks and postoffice
- Cinema
- Variety of bars and restaurants
- ‘Care centre’, collection of different medical disciplines

Figure 10.5.6 Scheme of the distribution of the different facilities along the tram line
(illustration by: author)
CHAPTER 11

HOW?
How are the interventions and strategies implemented on the city scale?
11.1 Context Cadzand-Bad
11.2 Vision Cadzand-Bad
11.3 Boulevard
11.4 Duinplein
11. Implementation Cadzand-Bad

In this chapter the proposed interventions and strategies would be tested on the city scale. The knowledge acquired in the previous chapters will be used to make a perspective for the small coastal village Cadzand-Bad. Cadzand-Bad is one of the villages which will be connected to the new tramline which runs between Breskens and Knokke. During the summer the many tourists who are visiting the coast of Zeeuws-Vlaanderen and during the winter the residents of neighbouring villages can use the tram to come to the facilities which are located in Cadzand-Bad. The implementation of the tram is therefore not only a physical intervention, but is also aimed to improve the living quality in the area. First the different conditions within the existing village will be explained to get a grip on the situation and the problems which will occur whenever there will no actions are taken. This will start by creating the planning scenario for the village by using the demographic statistics collected in section 8.1 and measuring the existing and predicted living quality from section 8.2.

After the starting conditions have been clearly set, a vision will be made, containing different elements which will be used to improve the conditions within the near future. This vision will be complementary to the overall vision of the municipality Sluis. Within this vision there are some key elements which will have a great contribution to the success of the intervention. In the last two sections the focus will shift to these key elements.
Cadzand-Bad is a small coastal village in the municipality Sluis and consists basically out of the coastal developments of the village Cadzand, which is located only a kilometre out of the coast. Cadzand-Bad is located in the far north-west corner of Zeeuws-Vlaanderen and is a typical coastal village, during the summertime the village overwhelmed by the fast amounts of tourists. However, during the wintertime the village is inhabited only by a couple of hundred residents. This is already problematic to keep the necessary facilities, but the shrinkage is imposing Cadzand-Bad for an enormous challenge.

In order to plan for decline, the first step is to create a planning scenario, in which the population and the total amount of household are described, see figure 11.2. By using these statistics the challenge of Cadzand can be defined. Although Cadzand is still a rather ‘young’ village, the age group < 16 years is 3 percent higher than the average of the municipality Sluis, the general trend of an ageing population is also noticeable in Sluis. The ageing population combined with the overall decline of the population is giving Cadzand several challenges;

- accommodate a small ‘wave’ of young families on the short term
- changing focus of facilities -> towards facilities focused on older people
- changing type of housing stock -> more one- and two person households
- decreasing amount of households
- decrease of social support

However, the fact that during the summertime the population of Cadzand is increased dramatically by the fast amount of tourists has to be kept in mind. This will not reduce the effect of the population decline and the changes in the population structure
regarding the living quality in the area. By the
decrease of the public support inflicted by the
population decline, some facilities could not stay
open. Also the ageing population will requires
different types of facilities. This will result in a
decline of the living quality, see figure 11.1.2.
However, with the proposed connections between
the different villages, Cadzand will focus on the
living quality categories;

- Cultural facilities
- Education
- Sport facilities
- Variety of shops and services
- Horeca and Leisure

Figure 11.1.2 The living quality in the different villages in the coastal area
(data from; SCOOP, RIBIZ, KvK, SYSWOV, municipalities Sluis, Terneuzen and Hulst, websites of societies)
11.2 Vision Cadzand-Bad

Cadzand-Bad can be typed to the basic urban principle of a coastal development, like described in section 8.3 page 98. The village is also located in the stroke with touristic facilities along the coast of Zeeuws-Vlaanderen. Like in other coastal developments, Cadzand-Bad can be characterized by its seasonal character. During the summer Cadzand-Bad is crowded by the many tourists who visit Cadzand-Bad or who owns a second home.

### Seasonal character

**Wintertime**

The emptiness in Cadzand-Bad off holiday season
(photo: Melissa Ruyter)

**Summertime**

Many tourists during the holiday season
(photo: unknown)

Figure 11.2.1 Current village
(illustration by: author)

Figure 11.2.2 Seasonal character of Cadzand-Bad
in the village and during wintertime the village is deserted except some permanent residents, see figure 11.2.2. Like shown in figure 11.2.1 the basic layout of Cadzand-Bad can be described as a chain of ‘beach - boulevard - village’ running from the north to the south, wedged between two touristic areas in the east and the west. The beach is one of the touristic attractions during the summer. However, the potential of the beach is not fully used. Currently the beach consists only out of sandbeaches, no footpaths and only a few little restaurants are situated on the beach during the holiday season, see figure 11.2.3. The boulevard is currently located between the Duinplein and the unclear boundary near the water inlet in the west, see figure 11.2.1. However, both nodes are not creating boundaries of the boulevard. The buildings surrounding the Duinplein are outdated and the square is a used as a car parking, see figure 11.2.4.
The structure of the village is fragmented. A good example of the fragmented structure are the parking facilities. These parking facilities are not placed in the urban structure by design, but are placed on empty spots in the urban fabric. The shrinkage of the village will create more empty spots within the urban fabric, causing more fragmentation. In order to plan ahead, a new vision for the Cadzand-Bad should be developed. Within this vision the multiple strategies and interventions proposed of the previous chapters are applied on the city scale; - the horizontal coastal defence, see figure 11.2.5 - focus on touristic developments, see figure 11.2.5 - implementation of the tramline, see figure 11.2.6

The focus of these interventions are focused on the boulevard. Along the boulevard the effects of the several interventions are combined. The different types of developments should be focused along this axis, connecting the urban fabric together. So for example, the parking facilities should be located behind the boulevard on plots which can become available by the decline of the total amount of households.

![Vision Cadzand-Bad](image1)

![Legend](image2)

![Legend](image3)

![Legend](image4)

![Figure 11.2.5 Vision Cadzand-Bad](image5)

![Figure 11.2.6 Implementation of the tramline](image6)
Within this new vision for the boulevard axis of Cadzand, see figure 11.2.7, there are five critical elements which gives the character to this axis;

- Western entrance; situated around the tramstop Cadzand-Hotel Noordzee and has a maritime character
- The Green Wielingen; running along the dune area and the urban villas.
- Boulevard de Wielingen; a small urban shopping street connecting the ‘western entrance’ with the ‘Duinplein’
- Eastern entrance; situated around the touristic developments and the tramstop Cadzand-Vlamingenpolder
- Duinplein; dynamic square, meeting place for both the ‘locals’ and the tourists around the tramstop Cadzand-Duinplein
From this five critical elements only the ‘boulevard de Wielingen’ and the ‘Duinplein’ a first design proposal is made. However, for the three other elements some general impressions and references will be given.

Western entrance
The Western entrance can be characterized by its maritime nature and by the fact that the tramline will have a stop during the holiday season. The ‘western entrance’ will be the starting- or end point of the boulevard axis. The maritime character should reinforce the character of the coastal development.

References ‘Western entrance’
(photos by; ontwikkelingsplan ‘Natuurlijk Stijlvol’)

11_CADZAND-BAD
The ‘Green’ Wielingen
Currently the ‘Green Wielingen’ already consists out of a wide road lined with detached houses on one side. This character has to be kept and reinforced. The ‘Green Wielingen’ should be a broad boulevard, where the dune area should make contact with the urbanization on the south of the boulevard. The tramline, the bicycle network, the footpath network and the road structure should be placed within the boulevard without disconnecting the boulevard from the dune area. The ‘Green Wielingen’ has a prominent starting- and end point by the ‘Duinplein’ and the ‘eastern entrance’

11_2_9 References the ‘Green’ Wielingen
(photos by; ontwikkelingsplan ‘Natuurlijk Stijlvol’ and GoogleMaps)
Eastern Entrance

With the development of the ‘eastern entrance’ the boulevard should have a good starting- or endpoint. The eastern entrance should also contain a tramstop, Cadzand-Vlamingenpolder, which only functions during the holiday season. The developments around the ‘eastern entrance’ should all focus on the touristic character of this location. Currently a variety of restaurants and clubs is situated around this location and this image should be reinforced, creating a second city centre focused on touristic activities in the area. During the holiday season Cadzand-Bad could facilitate in this way more tourists

11_2_10 References the ‘Eastern Entrance’
(photos by; panaramio || Samru and GoogleMaps)
11.3 Boulevard de Wielingen

The ‘Boulevard de Wielingen’ is connecting the ‘Western Entrance’ and the ‘Duinplein’ with each other. The facilities and shops that can not be situated on the ‘Duinplein’ will be situated along this boulevard. The developments on the southern side of the boulevard will be made closed and higher. The south development will keep its individual character, but will offer some perspective towards the current development in the north. This process will be divided into different phases, which is also dependent on the different phases of the shrinkage and the changes of the population structure. The development in the north is the cluster of appartments in the Résidence. The groundfloor of the Résidence should be integrated with the redevelopment of the boulevard, creating a stronger connection of the facilities in the Résidence and the boulevard.

With the redevelopment of the public space of the boulevard, an important issue is to reduce the role of the car in the boulevard. This partly done by removing the car parking facilities from the boulevard to behind the boulevard, but also by seperating the different driving lanes by the tramline. The tramline will give a more ‘green’ image to the boulevard whenever the tram is not using the tramline, see figure 11.3.2.
Figure 11.3.3 New ‘boulevard de Wielingen´ with the integration of the tramline
(illustration by: author)
Current situation

New situation

Figure 11.3.4 Cross section over the old and new ‘boulevard de Wielingen’
(illustration by: author)
The ‘Duinplein’ will get a complete new image. The square needs on three sides a clear visual confinement. On the north side the second boulevard is situated, which is also the main entrance to the beach in the north. The car parking facility will be moved to another location, behind the ‘boulevard de Wielingen’. This will create the opportunity to create a public space, similar to the city square in Breskens, see figure 11.4.1. An important feature of the ‘Duinplein’ will be the tram stop Cadzand-Duinplein. The tram will stop here the throughout the year, making the ‘Duinplein’ the centre of Cadzand-Bad. The facilities that would be used by the ‘locals’ will be focused around the square, making it accessible for other residents out of neighbouring villages.

The current developments, see figure 11.4.3 in the south of the square will be demolished and replaced with a mixture of facilities and housing. The new boulevard perpendicular on ‘boulevard de Wielingen’ will be combined with the existing ‘Strandhotel’. The new boulevard should be an addition to the existing boulevard and should guide the people to the beach. Within the boulevard the difference in height should be resolved, creating a platform from where both the ‘Duinplein’ and the beach could be overlooked.
Design Duinplein to be determined

Figure 11.4.4 The second boulevard perpendicular on ‘boulevard de Wielingen’, connected by the ‘Duinplein’.
(illustration by: author)
CHAPTER 12
Evaluation & recommendations
**Evaluation**

This section will reflect on the results of the thesis. This will be done by using the research questions defined in chapter 5 on page 26. In order to be able to answer the main research question, the different research subquestions will be answered first.

In what kind of way can the living quality be affected by the shrinkage?

The living quality can be affected in both a positive and a negative way, which depends on the type of shrinkage. However, the negative influence of shrinkage is only getting the attention. The shrinkage can for example create more potential dwellings for starters on the housing market.

The different types of shrinkage are analysed in chapter 6, starting on page 31. In general there are three different types of shrinkage;

- demographic
- economic
- household

In most cases there will be a combination of the different types of shrinkage, each type increasing the other type. What kind of shrinkage started the overall shrinkage is not easily distinguished.

The most problematic effect of shrinkage on the living quality is the decline of the social support for facilities. This will eventually result in the closure of many of these facilities, which will trigger even more people to leave the area, creating a vicious circle of a declining living quality. The main objective for urban planners and policy makers should be focused on breaking this vicious circle. Until recently, the majority of the policy makers and urban planners are still focusing on trying to turn shrinkage back into growth. However, the issue of shrinkage is getting more attention. Parkstad Limburg is currently one of the leading national cases where shrinkage is no longer perceived as a threat, but as an opportunity.

How does shrinkage fits within the (inter)national context?

The current situation shows three main shrinking areas in the Netherlands; Noord-Oost Groningen, Zuid-Limburg and Zeeuws-Vlaanderen. Currently the shrinkage is limited to a decline of the population. Especially the area of Zuid-Limburg is currently struggling with the decline of the population. Noord-Oost Groningen is currently struggling with a high unemployment rate. Zeeuws-Vlaanderen is not (yet) showing signs of shrinkage. With the different definitions of shrinkage defined in chapter 6, a base map regarding the combination of the different types of shrinkage in the Netherlands can be created, see figure 12.1. Within the next 30 years the shrinkage will occur within the most areas near the different borders of the Netherlands.

One of the reasons is mentioned in the report of the SCOOP (2009). Because of the favourable housing prices in Belgium and Germany young families migrate to these countries. Another reason could be the lack of connectivity to the Randstad region. The geographical distance between the two regions makes it difficult for young people to benefit from the Randstad in a social, economic and cultural point of view.

In other countries the majority of the shrinkage is limited to the scale of the city. In Germany for example is the phenomenon of a shrinking city very common in the former East-Germany area. After the fall of the Berlin Wall most of the East-German population migrated to West-German cities, resulting in entire abandoned neighbourhoods. This process inspired Philipp Oswalt and Peter Rieniets to start the ‘Shrinking Cities’ project. This project focused on gathering all types of information on the phenomenon of shrinkage.
Figure 12.1 Shrinkage within the Netherlands
(Adapted by Author, data from Planbureau voor de leefomgeving, 2010)
How can we use shrinkage to develop spatial interventions and strategies which can adapt to the needs of Zeeuws-Vlaanderen?

In Zeeuws-Vlaanderen the main strategy applied in order to face the shrinkage, is to focus on the different regional characters and qualities. The different characters and qualities of the different areas can contribute to each other instead of compete with each other. This will also allow interaction between the different areas, creating a number of characters with a high quality, instead of keeping a high quantity with a low quality.

In order to use the interaction between the different areas, the connections between these areas are crucial. These connections do not only consist out of the physical connections like the infrastructure, but also functional connections. An example used in the case of Zeeuws-Vlaanderen is the development of biobased developments in the axis Terneuzen-Gent and the development of new types of agriculture.

In the municipality Sluis the principle of interaction between the different areas is one of the strategies to maintain the living quality. Instead of clustering the facilities on one location, a chain of facilities is created. This requires a strong connection between the different villages. In the case of the municipality of Sluis the opportunity of extending the tramline along the ‘Belgian Coast’ is suggested.

The thesis includes different interventions and strategies at different scales ranging from the regional level to the local level. The largest strategies are focusing on the interaction of the different municipalities. The local scale is dealing with the implementation of the different interventions and strategies in Cadzand-Bad.

This research question is already partly answering the main research question. However, are the proposed interventions and strategies maintaining the living quality? In order to test the effects of the interventions and strategies on the living quality, the living quality tool described in section 6.4 on page 56 is used on the area with the interventions and strategies applied. In Appendix D the different schemes with the scores of the different categories is added, but in figure 12.2 the different scores are displayed in webdiagrams. The most important effect of the interventions and strategies is the increased accessibility. By increasing the accessibility, a lot of facilities will stay within ranges will the facility is located in the neighbouring village. Especially the implementation of the tramline has a great effect on the accessibility.

Although the tramline is a great strength of the project, it is also a great weakness. The tramline is a big investment in an area which is already suffering from the effects of the shrinkage. This will make it hard to validate the investment. However, from another perspective the tramline will maintain the living quality in the long term and would maintain the economic value of the surrounding area. It would also connect the area to Walcheren and Belgium, fixing the current missing link. The touristic potential of the area will be interacting with the touristic potential of Walcheren and the ‘Belgian Coast’.
Figure 12.2 The living quality in the different villages in the coastal area
(data from; SCOOP, RIBIZ, KvK, SYSWOV, municipalities Sluis, Terneuzen and Hulst, websites of societies)
Recommendations municipality Sluis

This section will propose some interventions in the municipality Sluis to focus even more on the different qualities and the touristic potential. The first proposal is to value the different villages and define the characters of the villages. By doing this the character of the village can be reinforced by the shrinkage. For example, is it necessary in a village which has the character of a ribbon development to demolish a number of houses? The municipality should assign the houses which are fitting within the ribbon development structure. The ones that are not fitting in this structure could be demolish. By this process of validating the houses, the fragmentation of the urban fabric by uncoordinated demolition can be prevented, see figure 12.3.

Another way of dealing with vacant houses is to start a project where the vacant houses can be sold as a second home or even try to turn the village into a hotel. The village is the hotel and the empty houses are the rooms of the hotel, see figure 12.4. This will give an extra dimension on the holiday accommodation, with all the comforts of your own home in a different village. The only drawback is the vacancy of these dwelling outside the holiday season. The hotel should therefore not only try to attract tourists during the holiday season, but also outside the holiday season. The municipality of Sluis will only benefit from its location near cities like Brugge and Middelburg. The improved connections to these areas will only improve this potential.
Figure 12.3 Demolish specific buildings to reinforce the character of the village (illustrations from: B. Heeling)
With the touristic developments along the coast of the municipality of Sluis, the other villages should also try to attract some more tourists to their village. The improved bicycle and footpath structure will also generate some more touristic activity in these villages. However, within these villages there is still room for improvement. In many of the villages the central squares and other public places are currently used as a car parking facility. Like in Cadzand-Bad the demolishment of houses can be used to create car parking facilities outside these public spaces and use the public spaces to accommodate the tourists, see figure 12.5

**Figure 12.5** Use the public spaces for touristic means instead of car parking facilities
(illustrations by; Melissa Ruijter and author)
CHAPTER 13
APPENDIX
### Population structure per age category

**Municipality of Sluis 2008**

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*Data from Province of Zeeland and CBS*

### Population structure per age category

**Municipality of Sluis 2015**

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*Data from Province of Zeeland and CBS*
### Population structure per age category
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Data from Province of Zeeland and CBS

### Population structure per age category
**Municipality of Sluis 2015 compared to 2008**

<table>
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<tr>
<th>Municipality</th>
<th>0-15 years (abs)</th>
<th>0-15 years (%)</th>
<th>16-30 years (abs)</th>
<th>16-30 years (%)</th>
<th>31-60 years (abs)</th>
<th>31-60 years (%)</th>
<th>61-80 years (abs)</th>
<th>61-80 years (%)</th>
<th>&gt; 80 years (abs)</th>
<th>&gt; 80 years (%)</th>
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Data from Province of Zeeland and CBS

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**13. APPENDIX**
### Population structure per age category

**Municipality of Sluis 2030 compared to 2015**

<table>
<thead>
<tr>
<th></th>
<th>0-15 years (abs) (%)</th>
<th>16-30 years (abs) (%)</th>
<th>31-60 year (abs) (%)</th>
<th>61-80 years (abs) (%)</th>
<th>&gt; 80 years (abs) (%)</th>
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Data from Province of Zeeland and CBS

### Population structure per age category

**Municipality of Terneuzen 2008**

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<th>0-15 years (abs) (%)</th>
<th>16-30 years (abs) (%)</th>
<th>31-60 year (abs) (%)</th>
<th>61-80 years (abs) (%)</th>
<th>&gt; 80 years (abs) (%)</th>
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</tr>
<tr>
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<td>499 15,7</td>
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<td>385 16,1</td>
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Data from Province of Zeeland and CBS
### Population structure per age category

**Municipality of Terneuzen 2015**

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<th>16-30 years (abs) (%)</th>
<th>31-60 years (abs) (%)</th>
<th>61-80 years (abs) (%)</th>
<th>&gt; 80 years (abs) (%)</th>
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<tbody>
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<td>565 41,2</td>
<td>550 25,1</td>
<td>71 4,2</td>
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<tr>
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<td>483 15,7</td>
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<td>174 5,6</td>
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Data from Province of Zeeland and CBS

### Population structure per age category

**Municipality of Terneuzen 2030**

<table>
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<th>16-30 years (abs) (%)</th>
<th>31-60 years (abs) (%)</th>
<th>61-80 years (abs) (%)</th>
<th>&gt; 80 years (abs) (%)</th>
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<td>2408 32,7</td>
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<tr>
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<td>193 12,6</td>
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<td>525 34,4</td>
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<tr>
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<td>817 29,2</td>
<td>243 8,7</td>
</tr>
<tr>
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<td>218 9,1</td>
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Data from Province of Zeeland and CBS
### Population structure per age category

**Municipality of Terneuzen 2015 compared to 2008**

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<th>0-15 years (abs) (%)</th>
<th>16-30 years (abs) (%)</th>
<th>31-60 year (abs) (%)</th>
<th>61-80 years (abs) (%)</th>
<th>&gt; 80 years (abs) (%)</th>
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<tbody>
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<td>9 4,0</td>
<td>-124 -18,0</td>
<td>131 31,3</td>
<td>0 0,0</td>
</tr>
<tr>
<td>Hoek</td>
<td>-100 -16,9</td>
<td>-16 -3,2</td>
<td>-135 -10,2</td>
<td>69 11,7</td>
<td>7 4,2</td>
</tr>
<tr>
<td>Koewacht</td>
<td>-48 -11,6</td>
<td>-14 -4,3</td>
<td>-92 -7,8</td>
<td>44 7,7</td>
<td>26 17,6</td>
</tr>
<tr>
<td>Overslag</td>
<td>5 11,9</td>
<td>13 27,1</td>
<td>-6 -4,1</td>
<td>24 53,3</td>
<td>6 54,5</td>
</tr>
<tr>
<td>Philippine</td>
<td>-88 -23,2</td>
<td>31 11,6</td>
<td>-165 -16,7</td>
<td>140 31,3</td>
<td>9 12,5</td>
</tr>
<tr>
<td>Sas van Gent</td>
<td>-94 -16,7</td>
<td>-46 -8,6</td>
<td>-240 -15,3</td>
<td>86 10,0</td>
<td>-10 -4,3</td>
</tr>
<tr>
<td>Sluiskil</td>
<td>-92 -23,9</td>
<td>17 4,4</td>
<td>-161 -15,9</td>
<td>94 18,0</td>
<td>-29 -36,7</td>
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<tr>
<td>Terneuzen</td>
<td>190 4,9</td>
<td>-84 -2,1</td>
<td>-225 -2,1</td>
<td>410 8,2</td>
<td>119 10,1</td>
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<tr>
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<td>-10 -8,3</td>
<td>87 19,2</td>
<td>-133 -14,2</td>
<td>-15 -5,8</td>
<td>-53 -17,6</td>
</tr>
<tr>
<td>Zaaamslag</td>
<td>-159 -31,1</td>
<td>1 0,2</td>
<td>-151 -12,3</td>
<td>279 51,7</td>
<td>83 49,4</td>
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<tr>
<td>Zandstraat</td>
<td>-2 -3,2</td>
<td>-13 -20,6</td>
<td>-4 -2,0</td>
<td>5 5,8</td>
<td>8 50,0</td>
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<tr>
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<td>-55 -11,8</td>
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<td><strong>Total</strong></td>
<td>-624 -74</td>
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Data from Province of Zeeland and CBS

---

### Population structure per age category

**Municipality of Terneuzen 2030 compared to 2015**

<table>
<thead>
<tr>
<th></th>
<th>0-15 years (abs) (%)</th>
<th>16-30 years (abs) (%)</th>
<th>31-60 year (abs) (%)</th>
<th>61-80 years (abs) (%)</th>
<th>&gt; 80 years (abs) (%)</th>
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</thead>
<tbody>
<tr>
<td>Axel</td>
<td>-120 -10,7</td>
<td>-95 -8,1</td>
<td>-830 -28,8</td>
<td>430 21,7</td>
<td>228 38,2</td>
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<tr>
<td>Biervliet</td>
<td>7 3,8</td>
<td>-43 -18,2</td>
<td>-150 -26,5</td>
<td>-25 -4,5</td>
<td>131 184,5</td>
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<tr>
<td>Hoek</td>
<td>-214 -43,4</td>
<td>6 -1,2</td>
<td>-217 -18,2</td>
<td>157 23,8</td>
<td>69 39,7</td>
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<tr>
<td>Koewacht</td>
<td>-79 -21,6</td>
<td>36 11,5</td>
<td>-441 -40,4</td>
<td>285 46,0</td>
<td>44 25,3</td>
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<td>-10 -21,3</td>
<td>-1 -1,6</td>
<td>-17 -12,1</td>
<td>15 21,7</td>
<td>6 35,3</td>
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<tr>
<td>Philippine</td>
<td>-136 -46,6</td>
<td>28 9,4</td>
<td>-329 -39,9</td>
<td>194 33,0</td>
<td>140 172,8</td>
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<td>-73 -14,9</td>
<td>-362 -27,2</td>
<td>-43 -4,6</td>
<td>86 38,9</td>
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<tr>
<td>Sluiskil</td>
<td>-37 -12,6</td>
<td>-96 -23,9</td>
<td>-170 -20,0</td>
<td>10 1,6</td>
<td>94 188,0</td>
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<tr>
<td>Terneuzen</td>
<td>-269 -6,6</td>
<td>78 2,0</td>
<td>-1038 -10,0</td>
<td>225 4,2</td>
<td>253 19,4</td>
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<td>Westdorpe</td>
<td>-7 -6,3</td>
<td>-274 -50,6</td>
<td>43 5,3</td>
<td>138 56,8</td>
<td>-15 -6,0</td>
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<tr>
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<td>-120 -25,3</td>
<td>-354 -32,7</td>
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<td>0 0,0</td>
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<tr>
<td>Zandstraat</td>
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<td>-2 -4,0</td>
<td>-59 -29,6</td>
<td>33 36,3</td>
<td>5 20,8</td>
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<tr>
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<td>47 39,8</td>
<td>-230 -56,0</td>
<td>50 22,8</td>
<td>17 51,5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>-924 14,9</td>
<td>-521 13,1</td>
<td>-4154 43,2</td>
<td>1469 22,3</td>
<td>1058 6,4</td>
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</table>

Data from Province of Zeeland and CBS
### Cultural facilities

<table>
<thead>
<tr>
<th>Cultural facilities</th>
<th>Cultural activities; focused on the town</th>
<th>Cultural activities; larger range</th>
<th>Societies; for youth</th>
<th>Societies; for adults</th>
<th>Societies; for elderly</th>
<th>Total</th>
<th>Grade (total/max)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = Townhouse</td>
<td>1 = none activities</td>
<td>1 = none activities</td>
<td>1 = no societies</td>
<td>1 = no societies</td>
<td>1 = no societies</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>2 = Townhouse and other facilities</td>
<td>2 = several activities</td>
<td>2 = several activities</td>
<td>2 = one society</td>
<td>2 = one society</td>
<td>2 = one society</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>3 = Townhouse, library and other facilities</td>
<td>3 = multiple activities</td>
<td>3 = multiple activities</td>
<td>3 = two societies</td>
<td>3 = two societies</td>
<td>3 = two societies</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4 = more then two societies</td>
<td>4 = more then two societies</td>
<td>5</td>
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### Sport facilities

<table>
<thead>
<tr>
<th>Sport facilities</th>
<th>Sport facilities for youth</th>
<th>Sport facilities for adults</th>
<th>Sport facilities for elderly</th>
<th>Total</th>
<th>Grade (total/max)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = no sport facilities</td>
<td>1 = no sport societies</td>
<td>1 = no sport societies</td>
<td>1 = no facilities</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>2 = indoor or outdoor sport facilities</td>
<td>2 = only societies without competition for youth</td>
<td>2 = only societies without competition for adults</td>
<td>2 = facilities specially for elderly</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>3 = indoor and outdoor sport facilities</td>
<td>3 = society with competitions for youth</td>
<td>3 = society with competitions for adults</td>
<td>3 = society with competitions for elderly</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>4 = society with multiple possibilities for youth</td>
<td>4 = society with multiple possibilities for youth</td>
<td>4 = society with multiple possibilities for youth</td>
<td>4 = society with multiple possibilities for youth</td>
<td>5</td>
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</table>

Sources: municipalities, websites of societies, SCOOP
### Education

<table>
<thead>
<tr>
<th>Grade</th>
<th>Total</th>
<th>(total/max)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aardenburg</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Breskens</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Cadzand</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Eede</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Groede</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Hoofdplaat</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Ijzendijke</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Nieuwvliet</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Oostburg</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Retranchement</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Schoondijke</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Sluis</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Sint Kruis</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Waterlandkerkje</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Zuidzande</td>
<td>2</td>
<td>2</td>
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</table>

Sources: municipalities, websites of societies, SCOOP

### Variety of shops and services

<table>
<thead>
<tr>
<th>Shops for daily needs</th>
<th>Non-food shops</th>
<th>Big retail branches</th>
<th>Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = none</td>
<td>1 = none</td>
<td>1 = no big retail branches</td>
<td>1 = no facilities</td>
</tr>
<tr>
<td>2 = local/small grocery shop</td>
<td>2 = small non-food shops</td>
<td>2 = &lt; 3 big national retail branches</td>
<td>2 = ATM or mobile facility</td>
</tr>
<tr>
<td>3 = large grocery shops or multiple small grocery shops</td>
<td>3 = big non-food shops or multiple small non-food shops</td>
<td>3 = &gt; 3 big national retail branches</td>
<td>3 = Service point of a bank or postoffice</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade</th>
<th>Total</th>
<th>(total/max)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aardenburg</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Breskens</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Cadzand</td>
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<td>3</td>
</tr>
<tr>
<td>Eede</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Groede</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Hoofdplaat</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Ijzendijke</td>
<td>3</td>
<td>3</td>
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<tr>
<td>Nieuwvliet</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Oostburg</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Retranchement</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Schoondijke</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Sluis</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Sint Kruis</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Waterlandkerkje</td>
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<td>1</td>
</tr>
<tr>
<td>Zuidzande</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

Sources: municipalities, websites of societies, SCOOP
### Horeca and leisure

<table>
<thead>
<tr>
<th>Horeca</th>
<th>Leisure facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = no horeca facilities</td>
<td>1 = none</td>
</tr>
<tr>
<td>2 = at least one or two snackbars/tavern’s</td>
<td>2 = bowling, disco, paintball, etc.</td>
</tr>
<tr>
<td>3 = a few horeca facilities (3-5)</td>
<td>3 = cinema, theater etc.</td>
</tr>
<tr>
<td>4 = multiple horeca facilities (&gt; 5)</td>
<td></td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Location</th>
<th>Horeca</th>
<th>Leisure facilities</th>
<th>Total</th>
<th>Grade (total/max)</th>
</tr>
</thead>
<tbody>
<tr>
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<td>4</td>
<td>3</td>
<td>7</td>
<td>10,0</td>
</tr>
<tr>
<td>Breskens</td>
<td>4</td>
<td>3</td>
<td>7</td>
<td>10,0</td>
</tr>
<tr>
<td>Cadzand</td>
<td>4</td>
<td>3</td>
<td>7</td>
<td>10,0</td>
</tr>
<tr>
<td>Eede</td>
<td>4</td>
<td>2</td>
<td>6</td>
<td>8,6</td>
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<tr>
<td>Groede</td>
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<td>8,6</td>
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<td>Hoofdplaat</td>
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<td>5</td>
<td>7,1</td>
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<td>7</td>
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<td>6</td>
<td>8,6</td>
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<td>7,1</td>
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<td>8,6</td>
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<td>Sluis</td>
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<td>7</td>
<td>10,0</td>
</tr>
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</table>

Sources: municipalities, websites of societies, SCOOP

### Healthcare

<table>
<thead>
<tr>
<th>Healthcare</th>
<th>Medical facilities</th>
<th>Living and care</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = no general practitioner services</td>
<td>1 = no medical facilities</td>
<td>1 = none</td>
</tr>
<tr>
<td>2 = general practitioner</td>
<td>2 = dentist in village</td>
<td>2 = 'care dwellings' within village</td>
</tr>
<tr>
<td>1x a week visiting hour</td>
<td>3 = fysiotherapist etc. in village</td>
<td>3 = ‘care centre’ in village</td>
</tr>
<tr>
<td>3 = general practitioner within village</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Location</th>
<th>Healthcare</th>
<th>Medical facilities</th>
<th>Living and care</th>
<th>Total</th>
<th>Grade (total/max)</th>
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<tbody>
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<td>9</td>
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<td>1</td>
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</table>

Sources: municipalities, websites of societies, SCOOP
## Cultural facilities

<table>
<thead>
<tr>
<th>Cultural facilities</th>
<th>Cultural activities; focused on the town</th>
<th>Cultural activities; larger range</th>
<th>Societies; for youth</th>
<th>Societies; for adults</th>
<th>Societies; for elderly</th>
<th>Grade (total/max)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = Townhouse</td>
<td>1 = none activities</td>
<td>1 = none activities</td>
<td>1 = no societies</td>
<td>1 = no societies</td>
<td>1 = no societies</td>
<td>19</td>
</tr>
<tr>
<td>2 = Townhouse and</td>
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<td>2 = several activities</td>
<td>2 = one society</td>
<td>2 = one society</td>
<td>2 = one society</td>
<td>17</td>
</tr>
<tr>
<td>and other facilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>17</td>
</tr>
<tr>
<td>3 = Townhouse, library and other facilities</td>
<td>3 = multiple activities</td>
<td>3 = multiple activities</td>
<td>3 = two societies</td>
<td>3 = two societies</td>
<td>3 = two societies</td>
<td>16</td>
</tr>
</tbody>
</table>

Sources; municipalities, websites of societies, SCOOP

## Education

<table>
<thead>
<tr>
<th>Daycare</th>
<th>Primary school</th>
<th>Secondary school</th>
<th>Special arrangements</th>
<th>Total</th>
<th>Grade (total/max)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = none</td>
<td>1 = no one within 15 min.</td>
<td>1 = no one within 20 min.</td>
<td>= no</td>
<td>8</td>
<td>7,3</td>
</tr>
<tr>
<td>2 = toddler playroom</td>
<td>2 = one</td>
<td>2 = one within 10 min.</td>
<td>= yes</td>
<td>8</td>
<td>7,3</td>
</tr>
<tr>
<td>3 = toddler playroom and daycare</td>
<td>3 = multiple</td>
<td></td>
<td></td>
<td>8</td>
<td>7,3</td>
</tr>
</tbody>
</table>

Sources; municipalities, websites of societies, SCOOP

## Sport facilities

<table>
<thead>
<tr>
<th>Sport facilities</th>
<th>Sport facilities for youth</th>
<th>Sport facilities for adults</th>
<th>Sport facilities for elderly</th>
<th>Total</th>
<th>Grade (total/max)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = no sport facilities</td>
<td>1 = no sport societies</td>
<td>1 = no sport societies</td>
<td>1 = no facilities</td>
<td>13</td>
<td>10,0</td>
</tr>
<tr>
<td>2 = indoor or outdoor</td>
<td>2 = only societies without</td>
<td>2 = only societies without</td>
<td>2 = facilities specially for</td>
<td>13</td>
<td>10,0</td>
</tr>
<tr>
<td>sport facilities</td>
<td>competition for youth</td>
<td>competition for adults</td>
<td>elderly</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 = indoor and outdoor</td>
<td>3 = society with</td>
<td>3 = society with</td>
<td></td>
<td>11</td>
<td>8,5</td>
</tr>
<tr>
<td>sport facilities</td>
<td>competitions for youth</td>
<td>competitions for adults</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 = society with</td>
<td>4 = society with</td>
<td></td>
<td></td>
<td>9</td>
<td>6,9</td>
</tr>
<tr>
<td>multiple possibilities</td>
<td>multiple possibilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sources; municipalities, websites of societies, SCOOP

### LEGEND

- **[ ]**: improve to node
- **[ ]**: maintain the facility
- **[ ]**: downgrade the facility
### Variety of shops and services

<table>
<thead>
<tr>
<th>Shops for daily needs</th>
<th>Non-food shops</th>
<th>Big retail branches</th>
<th>Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = none</td>
<td>1 = none</td>
<td>1 = no big retail branches</td>
<td>1 = no facilities</td>
</tr>
<tr>
<td>2 = local/small grocery shop</td>
<td>2 = small non-food shops</td>
<td>2 = &lt; 3 big national retail branches</td>
<td>2 = ATM or mobile facility</td>
</tr>
<tr>
<td>3 = large grocery shops or multiple small grocery shops</td>
<td>3 = big non-food shops or multiple small non-food shops</td>
<td>3 = &gt; 3 big national retail branches</td>
<td>3 = Service point of a bank or postoffice</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Area</th>
<th>Shops for daily needs</th>
<th>Non-food shops</th>
<th>Big retail branches</th>
<th>Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breskens</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Cadzand</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Groede</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Nieuwvliet</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade (total/max)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>10,0</td>
<td>12</td>
</tr>
<tr>
<td>8,3</td>
<td>10</td>
</tr>
<tr>
<td>6,7</td>
<td>8</td>
</tr>
<tr>
<td>5,8</td>
<td>7</td>
</tr>
</tbody>
</table>

Sources; municipalities, websites of societies, SCOOP

### Horeca and leisure

<table>
<thead>
<tr>
<th>Horeca</th>
<th>Leisure facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = no horeca facilities</td>
<td>1 = none</td>
</tr>
<tr>
<td>2 = at least one or two snackbars/tavern’s</td>
<td>2 = bowling, disco, paintball, etc.</td>
</tr>
<tr>
<td>3 = a few horeca facilities (3-5)</td>
<td>3 = cinema, theater etc.</td>
</tr>
<tr>
<td>4 = multiple horeca facilities (&gt; 5)</td>
<td>Total (total/max)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Area</th>
<th>Horeca</th>
<th>Leisure facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breskens</td>
<td>3</td>
<td>3</td>
</tr>
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<td>Cadzand</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Groede</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Nieuwvliet</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade (total/max)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>10,0</td>
<td>7</td>
</tr>
<tr>
<td>10,0</td>
<td>7</td>
</tr>
<tr>
<td>8,6</td>
<td>6</td>
</tr>
<tr>
<td>8,6</td>
<td>6</td>
</tr>
</tbody>
</table>

Sources; municipalities, websites of societies, SCOOP

### Healthcare

<table>
<thead>
<tr>
<th>Healthcare</th>
<th>Medical facilities</th>
<th>Living and care</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = no general practitioner services</td>
<td>1 = no medical facilities</td>
<td>1 = none</td>
</tr>
<tr>
<td>2 = general practitioner</td>
<td>2 = dentist in village</td>
<td>2 = ‘care dwellings’ within village</td>
</tr>
<tr>
<td>1x a week visiting hour</td>
<td>3 = fysiotherapist etc. in village</td>
<td>3 = ‘care centre’ in village</td>
</tr>
<tr>
<td>3 = general practitioner within village</td>
<td>Total (total/max)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Area</th>
<th>Healthcare</th>
<th>Medical facilities</th>
<th>Living and care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breskens</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Cadzand</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Groede</td>
<td>1</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Nieuwvliet</td>
<td>1</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade (total/max)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>10,0</td>
<td>9</td>
</tr>
<tr>
<td>6,7</td>
<td>6</td>
</tr>
<tr>
<td>3,3</td>
<td>3</td>
</tr>
<tr>
<td>3,3</td>
<td>3</td>
</tr>
</tbody>
</table>

Sources; municipalities, websites of societies, SCOOP

### LEGEND
- Green: improve to node
- Orange: maintain the facility
- Red: downgrade the facility
## Cultural facilities 2030

<table>
<thead>
<tr>
<th>Cultural facilities</th>
<th>Cultural activities; focused on the town</th>
<th>Cultural activities; larger range</th>
<th>Societies; for youth</th>
<th>Societies; for adults</th>
<th>Societies; for elderly</th>
<th>Total</th>
<th>Grade (total/max)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = Townhouse</td>
<td>1 = none activities</td>
<td>1 = none activities</td>
<td>1 = no societies</td>
<td>1 = no societies</td>
<td>1 = no societies</td>
<td>21</td>
<td>10,0</td>
</tr>
<tr>
<td>2 = Townhouse and other facilities</td>
<td>2 = several activities</td>
<td>2 = several activities</td>
<td>2 = one society</td>
<td>2 = one society</td>
<td>2 = one society</td>
<td>15</td>
<td>7,1</td>
</tr>
<tr>
<td>3 = Townhouse, library and other facilities</td>
<td>3 = multiple activities</td>
<td>3 = multiple activities</td>
<td>3 = two societies</td>
<td>3 = two societies</td>
<td>3 = two societies</td>
<td>14</td>
<td>6,7</td>
</tr>
<tr>
<td>4 = more than two societies</td>
<td>4 = more than two societies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sources; municipalities, websites of societies, SCOOP

## Accessibility 2030

<table>
<thead>
<tr>
<th>Road category</th>
<th>Public transport</th>
<th>Special arrangements</th>
<th>Distance to Oostburg</th>
<th>Total</th>
<th>Grade (total/max)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = Access road</td>
<td>1 = call-bus or -taxi</td>
<td>1 = no</td>
<td>1 = 20 - 30 min.</td>
<td>8</td>
<td>6,2</td>
</tr>
<tr>
<td>(60 km/h)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 = Access road (80km/h)</td>
<td>2 = bus service</td>
<td>2 = yes</td>
<td>2 = 10 - 20 min.</td>
<td>10</td>
<td>7,7</td>
</tr>
<tr>
<td>3 = Provincial road</td>
<td>3 = bus service more then 2 times/h</td>
<td>3 = 0 - 10 min.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(80 km/h)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 = Motorway (100km/h)</td>
<td>4 = Tramline</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sources; municipalities, websites of societies, SCOOP
### Education 2030

<table>
<thead>
<tr>
<th></th>
<th>Daycare</th>
<th>Primary school</th>
<th>Secondary school</th>
<th>Special arrangements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 = none</td>
<td>1 = no one within 10 min.</td>
<td>1 = no one within 20 min.</td>
<td>1 = no</td>
</tr>
<tr>
<td></td>
<td>2 = toddler playroom</td>
<td>2 = One within 10 min.</td>
<td>2 = one within 20 min</td>
<td>2 = yes</td>
</tr>
<tr>
<td></td>
<td>3 = toddler playroom and daycare</td>
<td>3 = Multiple within 10 min.</td>
<td>3 = one within 10 min</td>
<td></td>
</tr>
<tr>
<td>Breskens</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Cadzand</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Groede</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Nieuwvliet</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

Sources: municipalities, websites of societies, SCOOP

### Sport facilities 2030

<table>
<thead>
<tr>
<th>Sport facilities</th>
<th>Sport facilities for youth</th>
<th>Sport facilities for adults</th>
<th>Sport facilities for elderly</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = no sport facilities</td>
<td>1 = no sport societies</td>
<td>1 = no sport societies</td>
<td>1 = no facilities</td>
</tr>
<tr>
<td>2 = indoor or outdoor sport facilities</td>
<td>2 = only societies without competition for youth</td>
<td>2 = only societies without competition for adults</td>
<td>2 = facilities specially for elderly</td>
</tr>
<tr>
<td>3 = indoor and outdoor sport facilities</td>
<td>3 = society with competitions for youth</td>
<td>3 = society with competitions for adults</td>
<td></td>
</tr>
<tr>
<td>4 = society with multiple possibilities for youth</td>
<td>4 = society with multiple possibilities for youth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
<td>10,0</td>
<td></td>
</tr>
</tbody>
</table>

### Variety of shops and services 2030

<table>
<thead>
<tr>
<th>Shops for daily needs (within 15 min.)</th>
<th>Non-food shops (within 15 min.)</th>
<th>Big retail branches (within 15 min.)</th>
<th>Services (within 15 min.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = none</td>
<td>1 = none</td>
<td>1 = no big retail branches</td>
<td>1 = no facilities</td>
</tr>
<tr>
<td>2 = local/small grocery shop</td>
<td>2 = small non-food shops</td>
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<td>2 = ATM or mobile facility</td>
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</tr>
</tbody>
</table>

Sources: municipalities, websites of societies, SCOOP
## Horeca and leisure 2030

<table>
<thead>
<tr>
<th>Horeca</th>
<th>Leisure facilities</th>
<th>Total</th>
<th>Grade (total/max)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = no horeca facilities</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2 = at least one or two snackbars/tavern's</td>
<td>2 = bowling, disco,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 = a few horeca facilities (3-5)</td>
<td>paintball, etc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 = multiple horeca facilities (&gt; 5)</td>
<td>3 = cinema, theater etc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breskens</td>
<td>4</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Cadzand</td>
<td>4</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Groede</td>
<td>3</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Nieuwvliet</td>
<td>3</td>
<td>2</td>
<td>5</td>
</tr>
</tbody>
</table>

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## Healthcare 2030

<table>
<thead>
<tr>
<th>Healthcare</th>
<th>Medical facilities</th>
<th>Living and care</th>
<th>Total</th>
<th>Grade (total/max)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = no general practitioner services</td>
<td>1 = no medical facilities</td>
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<td>2 = general practitioner</td>
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<tr>
<td>1x a week visiting hour</td>
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</tr>
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<td>3 = general practitioner within village</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breskens</td>
<td>3</td>
<td>3</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Cadzand</td>
<td>2</td>
<td>1</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Groede</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Nieuwvliet</td>
<td>1</td>
<td>3</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

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