

**How to measure social cohesion
at neighbourhood level**
An application for the city of Enschede

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How to measure social cohesion at neighbourhood level

by

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Abstract

Social cohesion is multidimensional and multilevel. Conceptualizing social cohesion in terms of definition and measurement is not an easy task. Many authors determine their own concept which varies from one another. The measurement of social cohesion at neighborhood level has been accepted as a good exercise for policy making. It is considered a challenge for the authority to recognize the importance of neighborhood to allocate the available resources and the needs. This study aims to get a better insight into the concept of social cohesion and how to measure it at the neighborhood level. The research tries to explore the definition, dimensions and indicators of social cohesion and the measurement of social cohesion within the context of Enschede, the Netherlands. It tries to differentiate between the horizontal and vertical aspects in order to measure the state of social cohesion.

Based on literature review and the statistical approaches, social cohesion index at neighborhood level was derived. Using z-score classification system, different indicators under five dimensions were calculated and assessed. A cut-off value was used to classify the moderate score and applying the weighting technique. The advantage of the mean z-score is that it describes the level of social cohesion directly. Each indicator was justified in terms of horizontal and vertical social cohesion and its state was analyzed using a scoring system. The analysis showed that some indicators have shortcomings and fails to represent social cohesion. Moreover some indicators could not be applied according to the literature. The measurement of social cohesion varies from place to place and also depends on the kind of indicators used. The study further showed that measurement of social cohesion at neighbourhood level is dependent on the concept and data availability.

Keywords: Social cohesion, Horizontal aspect, Vertical aspect, Neighbourhood level, Measurement, Enschede

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Table of contents

1. Introduction	1
1.1. Background and justification	1
1.2. Research problem	2
1.3. Research objectives	3
1.3.1. Sub-objectives.....	3
1.4. Research questions.....	4
1.5. Conceptual framework.....	4
1.6. Research design	5
1.7. Data collection and methodology	7
1.7.1. Secondary data collection	7
1.7.2. Primary data collection	8
1.7.3. Methodology.....	9
1.8. Structure of thesis	9
2. Conceptualisation of social cohesion and the specific experience in the Netherlands and the United Kingdom	11
2.1. Overview of social cohesion.....	11
2.1.1. The significance of neighbourhood	11
2.1.2. Definition of social cohesion	12
2.1.3. Social cohesion measurement.....	16
2.2. The Netherlands experience.....	19
2.2.1. Dimensions of social cohesion	20
2.2.2. Social cohesion measurement.....	21
2.2.3. The significant role of government policies	22
2.3. The United Kingdom experience.....	23
2.3.1. Dimensions of social cohesion	23
2.3.2. Measurement of social cohesion.....	24
2.3.3. The significant role of government policies	25
2.4. Conclusion	25
3. Methodology.....	27
3.1. Operationalisation of definition of social cohesion	27
3.2. Dimensions and indicators proposal.....	29
3.3. Analytical synthesis of indicators	32
3.4. Comparing the horizontal and vertical aspects	33
3.5. Conclusion	33
4. Results	34
4.1. Description of the neighbourhoods.....	34
4.2. Exploratory data analysis.....	36
4.3. Composition of the measure of social cohesion	40
4.3.1. Social networks dimension	40
4.3.2. Place attachment dimension	43
4.3.3. Common values dimension	45
4.3.4. Social order dimension	47
4.3.5. Wealth disparities dimension.....	47
4.4. Index of social cohesion	50
4.5. Comparison between horizontal and vertical aspects	53
4.6. Conclusion	56

5. Discussion	57
5.1. Social cohesion elements.....	57
5.1.1. Social cohesion definition.....	57
5.1.2. Social cohesion dimensions and indicators	57
5.2. Approach to measure social cohesion.....	61
5.3. Policy implications	62
6. Conclusion and recommendation	64
6.1. Conclusion	64
6.1.1. To identify and compare the various definition and interpretation of social cohesion	64
6.1.2. To compare the various approaches to measure social cohesion.....	64
6.1.3. To develop and apply the proper way to measure social cohesion	65
6.1.4. To discuss the policy implications of social cohesion measurement.....	65
6.2. Recommendation	66
Reference:	67
Appendix	70
Appendix A: Conceptualisation of dimension, indicators and interpretation of social cohesion	71
Appendix A: Conceptualisation of dimension, indicators and interpretation of social cohesion (Cont').....	72
Appendix A: Conceptualisation of dimension, indicators and interpretation of social cohesion (Cont').....	73
Appendix A: Conceptualisation of dimension, indicators and interpretation of social cohesion (Cont').....	74
Appendix A: Conceptualisation of dimension, indicators and interpretation of social cohesion (Cont').....	75
Appendix A: Conceptualisation of dimension, indicators and interpretation of social cohesion (Cont').....	76
Appendix B: Comparison of dimensions/aspects of social cohesion	77
Appendix C: Proposed dimension, indicators and interpretation of social cohesion	78
Appendix C: Proposed dimension, indicators and interpretation of social cohesion (Cont')..	79
Appendix C: Proposed dimension, indicators and interpretation of social cohesion (Cont')..	80
Appendix D: Index of social cohesion and ranking of neighbourhoods.....	81
Appendix E: Index of social cohesion and ranking of neighbourhoods	82
Appendix F: Index of social cohesion and ranking of neighbourhoods.....	83
Appendix G: Horizontal and vertical summary score.....	84
Appendix H: List of interviewees	85

List of figures

Figure 1.1 Conceptual framework	5
Figure 1.2 The study area.....	6
Figure 2.1 Different dimensions of social cohesion	24
Figure 3.1 The four-step methodological framework of indicator development.....	27
Figure 4.1 Population density per square kilometre (2007).....	34
Figure 4.2 House density per square kilometre (2007).....	35
Figure 4.3 Built-up areas (2007).....	35
Figure 4.4 Age groups (2007).....	36
Figure 4.5 Graphical summary of collected data	38
Figure 4.5 Graphical summary of collected data (Cont'.)	39
Figure 4.6 Percentage of public library members	41
Figure 4.7 Percentage of youth participation	42
Figure 4.8 Percentage of electoral participation	42
Figure 4.9 Average length (in year).....	43
Figure 4.10 Percentage of houses with owner-occupiers.....	44
Figure 4.11 Percentage of people aged ≥ 65 year-old.....	45
Figure 4.12 Percentage of non-Dutch ethnicity	46
Figure 4.13 Percentage of party voting	46
Figure 4.14 Percentage of crime rate (physical + social crime rate).....	47
Figure 4.15 Average of personal disposable income	48
Figure 4.16 Percentage of unemployment	49
Figure 4.17 Percentage of education attainment.....	49
Figure 4.18 Index of social cohesion (equal weighting).....	51
Figure 4.19 Index of social cohesion (expert opinion weighting : 1)	52
Figure 4.20 Index of social cohesion (expert opinion weighting : 2)	53
Figure 4.21 Horizontal social cohesion	54
Figure 4.22 Vertical social cohesion.....	55
Figure 4.23 State of social cohesion	55

List of tables

Table 1.1 Research matrix	7
Table 2.1 Addressing social cohesion at different spatial scales	16
Table 2.2 Patterns of causation	17
Table 2.3 Social cohesion indicators in European Union and OECD	18
Table 2.4 Measuring social cohesion: a two-by-two framework	19
Table 3.1 Proposed dimension, indicators and interpretation of social cohesion	31
Table 4.1 Descriptive statistics of the collected parameters	37
Table 4.2 Correlations of 10 indicators	40
Table 4.3 Correlations of dimensions of social networks, place attachment, common values, social order, and wealth disparities	50
Table 4.4 Equal weight assignments for social cohesion	50
Table 4.5 Expert opinion weight assignments for social cohesion (1)	51
Table 4.6 Expert opinion weight assignments for social cohesion (2)	52
Table 4.7 State of social cohesion	54

List of acronyms

BCP	Big Cities Policies
CBS	The Dutch Central Bureau of Statistics (Statistics Netherlands)
EU	European Union
GIS	Geographic information system
KISS	KennisInstituut Sedelijke Samenleving
OECD	The Organisation for Economic Co-operation and Development
SCP	The Netherlands Institute for Social Research

1. Introduction

1.1. Background and justification

Words in English like company, co-operation, collective have a common origin to the word cohere which means sense of belonging. In science of chemistry, there is the word; cohesive forces. These are forces which keep molecules of an element together (Wikipedia, 2010). This behaviour is called cohesion. Naturally, human beings usually like to stay together in a family, a workplace and a community. There is a certain force that keeps people together. This force can be a family bonding if a group is a family. This force can be belief or trust based on religion. This force can be a race and nationality like white, coloured, or black. Such a force, which keeps and glues people of similar interests together, especially in terms of a society, is termed as social cohesion and that is why human is often referred to as a social animal.

Recently, many countries, especially in Europe and Canada, pay more attention to social cohesion. The term social cohesion turns into popularity and a priority. It becomes an overarching concept (Chan, To, & Chan, 2006) emerging on the policy agenda. It plays a role as a central societal goal at supranational and national level. Due to globalisation and social inequality, social cohesion is the identified primary need to strengthen the societal welfare and human rights. It tries to promote politics, governance, solidarity and participation. For instance, the force of multi-culturalism is a key in the EU, according to increasing population. Comparing to Canada, the issues of economics and society is more important than the issue of ethnic group. In case of the Netherlands, social cohesion is one of the six pillars of the Cabinet policy program (Social and Cultural Planning Office of the Netherlands, 2008). The policy and strategy of social protection and inclusion is a main concept. This encourages people to participate in the labour market and in the society. Thus, politicians and social scientists regards the term of social cohesion as a greater importance to reduce gap caused by exclusion and create a sense of belonging founded upon the effective exercise of citizenship and a democratic ethic.

The concept of social cohesion is frequently introduced in several academic and policy documents. Even though social cohesion is often pertained, there is no standard definition and no clear understanding of its term. It is ill-defined and a vague term. Clarifying social cohesion is dependent to a large extent on the substantial problem that researchers or policymakers are focusing on. Policymakers and social scientists try to develop a definition of social cohesion. Social cohesion is a multidimensional and multilevel concept. It can be thought of norm, trust, and network that keeps people together (Stafford, et al., 2003). Social cohesion and social exclusion can be complementary ideas (McCracken, 1998). Also, social cohesion incorporates related concepts as social inclusion and social capital as well as links to the notion of social integration and system integration. It can be viewed as a condition of political stability and security. Social cohesion can be considered as opposed to social exclusion, weak societal bonds and feeling of solidarity within private networks. Social cohesion is a matter of combating social exclusion and poverty (Rajulton, Ravanera, &

Beaujot, 2007). Meegan & Mitchell (2001) note that social cohesion or exclusion are socio-spatial phenomena that can be regarded as an individual or a societal attribute and be analyzed at different levels. Anyway, how to define social cohesion is to understand its concept and current problem situation. A good definition of social cohesion should be determined as a minimal scope and ordinary usage (Chan, et al., 2006). It should define the essential elements as well as level of cohesiveness of group or community to be referred. A well, clear and operational definition will help to empirically study a level of social cohesion.

As mentioned above, a definition is important. It is a prior condition to concrete research and policy of social cohesion. If there are many definitions, there can be also many measurements. A narrow definition is useful to facilitate empirical research, investigation and measurement on social cohesion later on. Also, the measurement of social cohesion is required to aim the policy imperatives. It engages policymakers and public institutions to manage conflict. Paying attention to the spatial area is crucial in recognition of the different problems and potential of the area. It is recognition for the role of area.

1.2. Research problem

Considering the definition and measurement of social cohesion, the main problems are multidimensional and multilevel. It is recognised that the definition and conceptualisations are not easy to identify exactly and clearly (Chan, et al., 2006; Friedkin, 2004; Kearns & Forrest, 2000; Rajulton, et al., 2007). It is nebulous. Many authors determine their own term which varies from one another. According to Durkheim quoted in Rajulton et al., (2007), the author states that if the definition of social cohesion is not clear, then no direct measurements could be done. The different concepts of social cohesion affect the operationalisation and measurement of the term. One of complications related to the concept is that the state social cohesion differs being dependent on social groups or spatial scales (Department for Communities and Local Government, 2006). At country level, social cohesion is commonly viewed, especially for cross-national comparison. Social cohesion in national scale emerges as an agenda with a great deal of policy attention. However, the general concern about social cohesion which manifests widely in policy is seldom accompanied by a precise definition. Thus, the available measurement for intervention is not applicable.

In terms of neighbourhood level, it seems more interesting and useful to measure social cohesion, even though it is a social construct involving the difficulty of data collection based on spatial area (Rajulton, et al., 2007). Dimensions of social cohesion attract the attention of policymakers and social scientists to this level. Neighbourhood or community is the place where people reside, share, and engage in day-to-day pursuits. Neighbourhood, in terms of perceptions of co-residents, is an element in the derivation of psycho-social benefits from home (Kearns & Parkinson, 2001). The home area can serve for many functions such as making connections among members, fostering attachment and belonging, and reflecting people's values. It deals with the connections and relations between individuals, groups or associations. This is characteristic of social cohesion. So far, it is fairly helpful to foster the development and capacity of neighbourhood (Jenson, 1998). A significant experience of neighbourhood programs and their role in focusing policy efforts on the poorest communities is well understood (Department for Communities and Local Government, 2006). It is challenging for government to recognise the importance of neighbourhood scale. In addition, it is challenging for the local authorities to allocate the available resources targeting needs.

The measurement of social cohesion in neighbourhoods has been accepted as a good exercise for the society and could be of advantage to policy making. It builds a clear understanding of who lives in the area and where. It is the starting point for decision making about whom the authorities should target at (Department for Communities and Local Government, 2009). With proper knowledge, the drivers and symptoms of social cohesion could be addressed. This would help the public authorities to clearly identify the key issues and problems as well as to invest priorities in a context of extensive needs and scarce resources. The policy responses are assessed, for instance, to what extent cohesion related issues would be considered at the local level; what anticipating possible risk would be undertaken; what particular programs would be pursued and its effects, e.g. housing, unemployment, etc. This would bring about an impact on the disadvantage people and their places by bringing prosperity and providing opportunity. The measurement of social cohesion would help the neighbourhoods for long-term sustainability and development. Even though the measurement of social cohesion and the policy responses may not be applicable to another area, these may help to inspire other users to develop the appropriate measurement to the area.

A theoretical and empirical approach to measure social cohesion is mentioned above. To operationalise the measurement of social cohesion is advantage in many ways, as given below;

- It helps to build understanding on who lives in a particular area and where they are.
- It could be the starting point for decision making about whom the authorities should target.
- It is challenging for government and policymaker to allocate available resources and needs. It would help the authorities to know key problems in the areas and to invest priorities.

In response to this, it is of crucial importance to explore a suitable definition; to make clear what the term means as well as to develop an approach to measure the level of social cohesion at the neighbourhood area in the context of Enschede, the Netherlands. In addition, this study tries particularly to conceptualise, operationalise and measure social cohesion with existing secondary data. Therefore it incorporates available data from the Municipality of Enschede, I&O Research, CBS in order to map social cohesion.

1.3. Research objectives

The overall objective of this thesis is to get a better insight into the concept of social cohesion and how to measure social cohesion at the neighbourhood level.

1.3.1. Sub-objectives

The following sub-objectives establish the framework of this thesis which focuses on the definition, concept and measurement of social cohesion at the neighbourhood level:

1. To identify and compare the various definitions and interpretation of social cohesion
2. To compare the various approaches to measure social cohesion
3. To develop and apply the proper way to measure social cohesion
4. To discuss the policy implications of social cohesion measurement

1.4. Research questions

The research questions related to the three sub-objectives are:

1. To identify and compare the various definitions and interpretation of social cohesion

- What is the conceptualisation of social cohesion?
- What is the local definition of social cohesion in the neighbourhood?
- What are the elements of social cohesion and how do the elements of social cohesion interrelate?
- Which characteristics do influence the elements of social cohesion?

2. To compare the various approaches to measure social cohesion

- What methods are used for comparing and measuring social cohesion?
- What are the indicators valid for describing social cohesion?
- What are the factors related to social cohesion?

3. To develop and apply the proper way to measure social cohesion

- What proper method is used for measuring social cohesion?
- What are the advantages and disadvantages of different approaches to measure social cohesion?

4. To discuss the policy implications of social cohesion measurement

- What are the possible policies that could be developed as a follow up of the improved understanding of social cohesion?
- What is the role of policies and what issues should be addressed?

1.5. Conceptual framework

Social cohesion has gained popularity in recent times. It performs a role to prevent social inequalities and balance competitiveness and sustainable development (Berger-Schmitt, 2002). In term of cohesion, the level of cohesiveness of a group of people or community is assigned. A theoretical and empirical approach to measure social cohesion in neighbourhood is used. Social cohesion is a qualitative concept and reflects the consistency and quality of the societal bonds (Council of Europe, 2005). Based on the literature involving social cohesion, the approach is developed. When referring to the operationalisation and measurement of social cohesion, there are many various ways to apply. The direct measurement approach is dependent precisely on the narrow definition of social cohesion and depends on policymakers. Social cohesion will become a more practical and a significant concept in policy and academic research with a more obvious and rigorous definition (Chan, et al., 2006). The conceptual framework relates to the development and applies the measurement of social cohesion in the neighbourhood level.

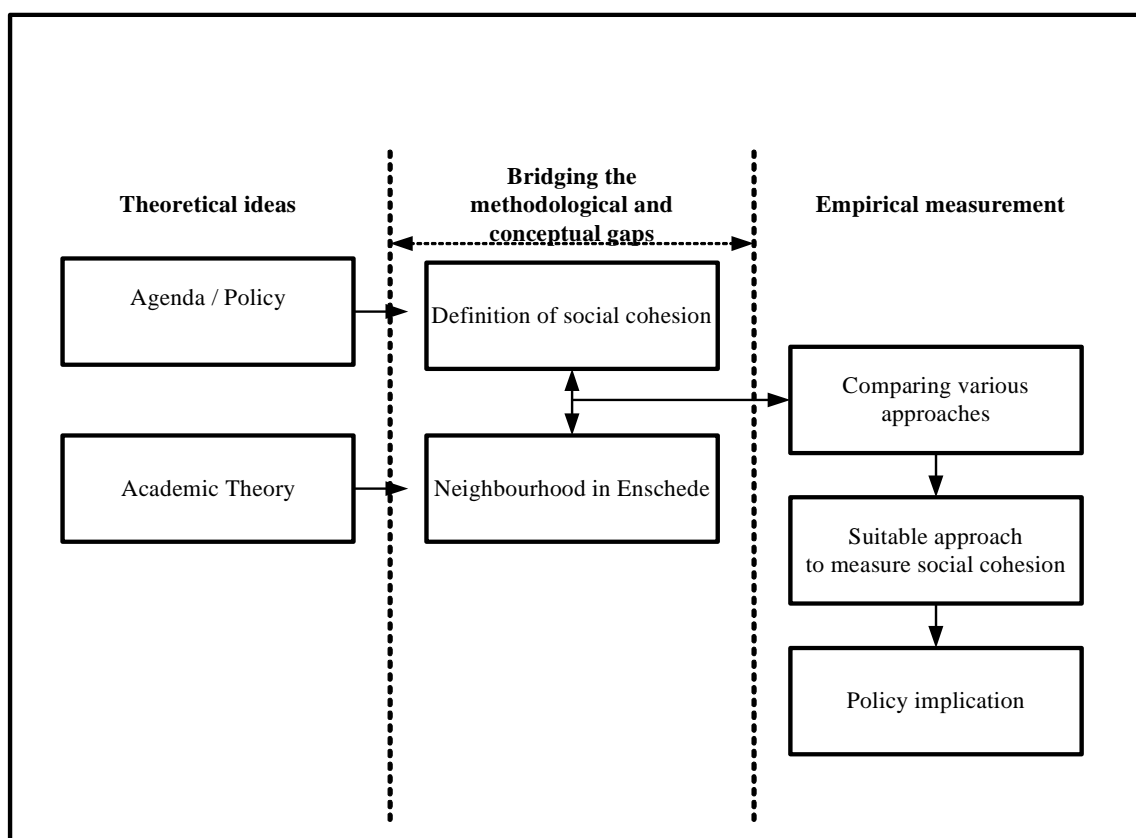


Figure 1.1 Conceptual framework

1.6. Research design

In order to achieve the research objectives and to answer the research questions, the table 1.1 shows the procedures followed in carrying out the research. The methodology of this study is focused on a literature review and the measurement and mapping of social cohesion. The research problem is identified through literature review and real world problem. The purpose of formulating the research objectives and research question is to solve the identified problem. The conceptual framework based on literature review is operationalised. Data prerequisite is considered. The primary (interview) and secondary data will be collected. After that, establish the important proposed dimensions of social cohesion based on literature and interview, including the relevant indicators are defined based on the secondary data availability. The measurement approaches are operationalised to the selected neighbourhoods. Based on analysis the result, conclusions and recommendations would be drawn.

The Municipality of Enschede comprises of 70 neighbourhoods. In this research, 52 neighbourhoods of Enschede (Figure 1.2) are selected as the case study in order to compare the level of social cohesion. Based on population density, house density and data availability, these neighbourhoods can be considered as an urban area while the rural areas are scarcely populated and have little human activities (The Dutch Central Bureau of Statistics, 2010). These neighbourhoods are situated in the province of Overijssel, in the Twente region.

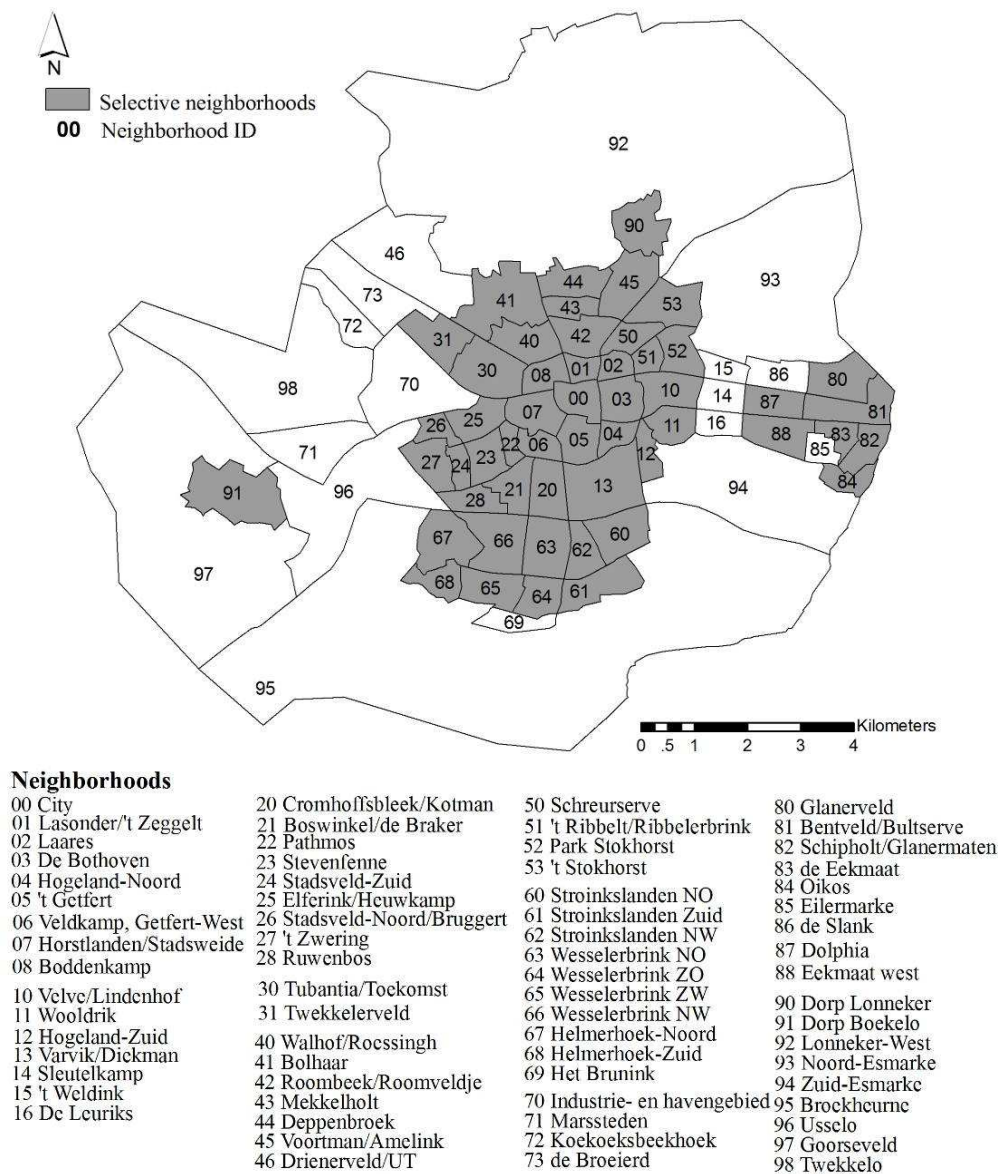


Figure 1.2 The study area

As far as data is concerned, secondary data were collected and used in this research. Secondary data from Dutch Central Bureau of Statistics (CBS), Municipality of Enschede and I&O Research, such as population, age, household composition, employment were used to carry out the study. Urban development policies related to neighbourhood development will be obtained from literature review and Municipality of Enschede.

Sub-objectives	Methods	Used data
1. To identify the social cohesion elements in the neighbourhoods <ul style="list-style-type: none"> - What is the conceptualisation of social cohesion? - What is the local definition of the social cohesion in the neighbourhood? - What are the elements of the social cohesion and how do the elements of social cohesion interrelate? - Which characteristics do influence the elements of social cohesion? 	<ul style="list-style-type: none"> -Literature review -Interviews the involved people from KISS, University of Twente, University of Utrecht, Municipality of Enschede and I&O Research 	<ul style="list-style-type: none"> -Literature -Urban development policies
2. To compare the various approaches to measure social cohesion <ul style="list-style-type: none"> - What methods are used for comparing and measuring social cohesion? - What are the indicators valid for describing social cohesion? - What are the factors related to social cohesion? 	<ul style="list-style-type: none"> -Literature review -Interviews the involved people from KISS, University of Twente, University of Utrecht, Municipality of Enschede and I&O Research 	<ul style="list-style-type: none"> -Census data
3. To develop and apply the proper way to measure social cohesion <ul style="list-style-type: none"> - What proper method is used for measure social cohesion? - What are the advantages and disadvantages of different approaches to measure social cohesion? 	<ul style="list-style-type: none"> -Z-score technique -Weighting technique -Spatial comparison 	<ul style="list-style-type: none"> -Census data -Purposed dimensions and indicators
4. To discuss the policy implications of social cohesion measurement <ul style="list-style-type: none"> - What are possible policies that could be developed as a follow up of the improved understanding of social cohesion? - What the role of policies and what issues should be addressed? 	<ul style="list-style-type: none"> -Analysis based on (1) (2) (3) -Interview staff from I&O Research, District Managers in Enschede 	

Table 1.1 Research matrix

1.7. Data collection and methodology

To achieve the objectives and respond to the research questions, the following primary and secondary data were obtained from the study area.

1.7.1. Secondary data collection

In order to operationalise the measurement of social cohesion, relevant data are collected according to the proposed dimensions of social cohesion¹. Details about the data collected

¹ See section 3.2

from Central Bureau of Statistics via Statline (<http://statline.cbs.nl>), Municipality of Enschede (www.enschede.buurtmonitor.nl), I&O Research (<http://www.ioresearch.nl>) in excel format and GIS shapefile format, are given below;

- 1) The population composition data (source : Municipality of Enschede, 2007)
 - Total population
 - Number of ethnicity
 - Age group
- 2) The settlement and length of residence data (source : Municipality of Enschede, 2007)
 - Average length of residence
 - Number of residences who settle in during the last 24 months
- 3) The income data (source : CBS, 2007)
 - Average disposable income per person
- 4) The employment data (source : Municipality of Enschede, 2007)
 - Number of potential working population aged 15 – 64 years old
 - Number of unemployment that still looking for jobs
 - Number of employment
- 5) The livability data (source : Municipality of Enschede, 2007)
 - Number of crime rate
- 6) The housing data (source : Municipality of Enschede, 2007)
 - Number of housing accommodations
 - Number of houses where the owner resides (owner-occupiers)
- 7) The social data (source : Municipality of Enschede, 2007)
 - Number of pupil at all schools
 - Number of public library members
 - Number of youth participation
- 8) *The municipal election data (source : Municipality of Enschede, 2006)
 - Number of people who have county rights
 - Number of politic party voting
- 9) The GIS data (source : Municipality of Enschede, 2008)
 - The digital maps of administrative boundaries (e.g. neighbourhoods, districts)
 - The digital maps of electoral boundary

Remark: *data at electoral boundary

1.7.2. Primary data collection

Most of the research questions in this study rely on secondary data of neighbourhood areas in Enschede. It is a prerequisite to consider the justification and conceptualisation of social cohesion, its dimensions and its relevant indicators. The interviews, therefore, are planned to get the information both from academicians with expertise in social cohesion as well as local policy makers. The interviewees are: a staff member of the Knowledge Institute Urban Society (KISS²) the “bridging” institution, a researcher from Utrecht University with expertise in

² KISS is a joint initiative of the Province of Overijssel, the five major urban municipalities in this province, the University of Twente and other regional institutions of higher education, private organisations (from the business community and civil society)

social cohesion, a professor of public governance from the University of Twente, and heads of district of Enschede. This combination of interviewees was relevant to conceptualise social cohesion in the case of Enschede.

1.7.3. Methodology

The methodology of this research focuses on the literature review and the exercise of statistic approach for constructing the social cohesion indices at neighbourhood level. The theoretical and policy agenda background as shown in the conceptual framework is rooted to derive the methodological approach to measure social cohesion. The literature review covers the rationale and justification, interpretation and operationalisation of social cohesion measurement. The method used combined 12 indicators under five dimensions of social cohesion in order to construct the social cohesion indices. The indicators were ranked and determined to indicate the condition of social cohesion. Descriptive statistics is applied to measure each indicator.

Based on the literature review and information collected, the indicators are selected in order to construct index of social cohesion. For various indicators assessment, the different indicators under five dimensions are calculated by using z-score classification system. There are two way to use z-score. One is the commonly used cut-off point and the other includes the summary statistics of z-score; mean, standard deviation, and frequency distribution. For consistency with different indicators, using a cut-off value is between -0.5 to 0.5, and then it is classified as moderate score.

Next, the weighting technique is a way to assign the parameters to give the level of importance upon the indicators before combining them into the composite index. After that, the comparison of the neighbourhood is made in order to reveal the condition. The equal weight is used. This method is the most frequent technique used by setting the normalized weight to be equal for all indicators. The condition of social cohesion in each neighbourhood is identified as a state of strong cohesion within (horizontal cohesion) or to the society at large (vertical cohesion). Geographic information system (GIS) is used to visualize the distribution of social cohesion condition by creating thematic maps.

1.8. Structure of thesis

The structure of this thesis follows the sequence of research questions presented.

Chapter 1 Introduction

This chapter introduces the conceptual and methodological aspects of this research. It presents the importance of the study, research problem, main objective, sub-objectives, research questions, conceptual framework, and research design and method.

Chapter 2 Conceptualisation of social cohesion and the specific experience in the Netherlands and the United Kingdom

The main aspect in this chapter is to review the conceptualisation of social cohesion and the experience in the Netherlands and the United Kingdom. This chapter will give the structured and extensive literature review of the various definitions and interpretation of social cohesion, dimensions of social cohesion, various approaches to measure social cohesion, consequences of policy implications and the experiences in the Netherlands and the United Kingdom. An

attempt was also made to clarify the meaning of the concept of social cohesion and review the existing theoretical and policy approaches to this issue.

Chapter 3 Methodology

This chapter reports on an overview of definition of social cohesion, dimensions, and indicators development process.

Chapter 4 Results

The chapter deals with an assessment of social cohesion dimension, indicators, and the state of social cohesion by developing a two way matrix. The combination of horizontal and vertical measures allows the comparisons of the possible variations between the two perspectives. Depending on the level of cohesion that is measured by horizontal and vertical indicators, there are strong social cohesion, individualistic neighbourhood with linkage to the larger societies, strong cohesion within but not linked to the outside world, and excluded neighbourhoods with excluded people.

Chapter 5 Discussion

This chapter discusses in three main sections the results of this study. The first section describes the results of social cohesion elements; the second section discusses the approach to measure social cohesion, the dimensions and, the index of social cohesion; and lastly the possible policy implications that could be developed as a follow up of the improved understanding of social cohesion. In addition, the role of policies should also be addressed.

Chapter 6 Conclusion and recommendation

This chapter concludes the work and gives some recommendations.

2. Conceptualisation of social cohesion and the specific experience in the Netherlands and the United Kingdom

This chapter will give the structured and extensive literature review of the various definitions and interpretation of social cohesion, dimensions of social cohesion, various approaches to measure social cohesion, consequences of policy implications and the experiences in the Netherlands and the United Kingdom. An attempt is made to clarify the meaning of the concept of social cohesion and review the existing theoretical and policy approaches to this issue.

2.1. Overview of social cohesion

In order to understand the importance of social cohesion and its measurement, it is crucial to review the definition and interpretation of social cohesion from theoretical and policy aspects. The cohesiveness of societies is being affected by globalisation, technological, socioeconomic and demographic pressures. It is important to understand this implication. Finding what social cohesion does in the society and why people would like to guarantee its existence is interesting. However, there is no single way of understanding even the dimension of social cohesion. These often vary according to the problem being addressed and the individual or organisation speaking (Jenson, 1998). For example, social cohesion means primarily the capacity to construct a collective identity, a sense of belonging. Otherwise, the focus is a society's commitment and capacity to assure equality of opportunity by including all its citizens and reducing marginality. Social cohesion is also discussed in relation to democratic practices, including patterns of participation, and the legitimacy of representative institutions such as advocacy groups, political parties unions and governments. In modern plural, liberal democratic societies, where value conflicts are inherent and social choices are open, social cohesion is sometimes interpreted in terms of society's capacity to mediate over access to power and resources, to accept controversy trying to shut it down (Jenson, 1998). It is a challenge to many policymakers and researchers to try to foster social cohesion.

2.1.1. The significance of neighbourhood

According to social cohesion term, issues of spatial scale and multilevel urban system are challenges. The impacts of globalisation and technology upon cities are dependent on the ability of the cities to find a role in the urban hierarchy. At city level, society and space turn into fragmented and complex, with divisions of exclusion and solidarity (Kearns & Forrest, 2000). To respond these difference and divisions, positing community as more fluid in social, temporal and spatial term is needed. As well, neighbourhood combines associational activities, local economic growth, political structure, and diversity of population.

The neighbourhood is outstanding in research and urban policy. It can be perceived in several different ways by different groups such as estate agents, policymakers or social groups due to their requirements. For instance, Chouguill (2008) explains that “neighbourhoods are, however, more than just a sub-area of the city. They are in fact a collection of neighbours, that is, people who live within the sub-area. Sociologists and planners have made a number of interesting observations concerning the way the size of neighbouring population affects the interaction of people within that population (2008, p. 43)”. The neighbourhood is a crucial element in the derivation of psycho-social benefits from the home because the home area serves several functions such as making connections, promoting sense of belonging and attachment, and reflecting the values. In Kearns and Parkinson’s research (2001), they note that the neighbourhood context is relevant to connectedness with three adopted dimensions, which are ambience, engagement and choicefulness. The neighbourhood can play a role in people’s personal and social identity and social position. “The neighbourhood is competitive and inherently comparative entities which is visible and conveys social information (p. 2106)”. The neighbourhoods are dynamic that are of continuous importance in an increasingly complex and globalizing information society that leads to fluid forms of contact between individuals. Many neighbourhoods in cities show a mix of all kinds of households. The neighbourhoods fulfil different functions within urban housing markets. Some neighbourhoods are clearly places for high-income households, due to other income groups are not able to afford to live there. In addition, the importance of neighbourhoods is related to the constraints upon people’s options for the choice of interaction partners. For instance, if residents are restricted in the transportation ways, they will develop more contact (Voßler, Flap, & Lindenberg, 2007). Hence, the neighbourhoods are tied up with benefits individuals.

To study social cohesion at the neighbourhood level is fairly significant. Social cohesion can be seen mainly on the degree of mutual contacts and the feelings of connectedness with the neighbours. The residents have socially activities and feel involved in their habitat. This involvement can arise from the presence of recognisable buildings from a unique structure of urban living around kindred. According to diversity, size and density of people, neighbourhood level is a key spatial unit for social interaction and relationship. It is an important source of social identity and social networks. The heterogeneity of citizen in neighbourhood is a challenge to manage the consequences of prejudice, conflict and antagonism between different groups of people (Robinson, 2005). Social cohesion is an agenda built on ideological assumptions regarding disputed concepts such as ‘community’ and ‘multiculturalism’ and drawing on dominant discourses concerning key themes in contemporary public policy, including social capital and the benefit of social mix (p. 1412).” As well, the chances of neighbourhoods generating social cohesion are dependent on a large extent on the characteristics of the population. Following Dekker (2006), the neighbourhoods experience problems which relate to a lack of cohesion being concentrated geographically and the residents run the risk of drifting from mainstream society. Also, the neighbourhoods are source of social identity and social networks. To tackle this trend, social cohesion at neighbourhood level should be fostered in national and local policies.

2.1.2. Definition of social cohesion

It is crucial to recognise where conversations about social cohesion begin. Jenson (1998) states that “Social cohesion is the vocabulary of those who judge that things are not going well (p. 3)”. It is a critical concept in many ways. It is problematic concept. This is not to say that the notion of social cohesion implies a direction of change or the amount of change that would

improve things. The key problem is a proliferation of definition of social cohesion that is difficult to combine or reconcile (Chan, et al., 2006; Friedkin, 2004; Rajulton, et al., 2007). Nonetheless, the social cohesion term, that is complicated, becomes popularity and priority recently. The concept of social cohesion is emerging on policy discourse as expounded by the Organisation of Economic Co-operation and Development, the Club of Rome, the French Commissariat au plan, Council of Europe, EU, the Canadian government's Policy Research Initiative and the UK Communities and Local Government. The concept of social cohesion can be presented as a quasi-concept (Beauvais & Jenson, 2002; Chan, et al., 2006). Many policymakers and social scientists use the different definition of social cohesion, even though they have some elements in common.

Social cohesion is often regarded in many aspects. It can be categorised with respect of subjective and objective components, horizontal and vertical aspects, and micro and macro levels. Social cohesion is considered a multiplicity; and is useful to distinguish between the horizontal and the vertical aspects. Social cohesion is a multi-dimensional term, which considers a horizontal aspect which is concerned with behaviours of individuals in the society and a vertical aspect that taps members between citizens and the authorities (Chan & Chan, 2006). Conceptualising social cohesion both in terms of horizontal and vertical aspects as well as among members of society and between societies will give more accurate and comprehensive picture of the state of social cohesion at the neighborhood level. By a horizontal aspect, Wickham (2003) means to "a sense of mutual trust and responsibility between members of the society (p. 103)." He defines a vertical as "inequalities of income, wealth and power. Such inequalities may generate social exclusion and even social conflict, but this is not necessarily be the case (p. 102)."

Dekker (2006) notes that social cohesion is referred to ideas of what is good but it is able to lead to the exclusion of outsiders and restrict residents from inclusion. Furthermore, the author indicates that "Social cohesion is not randomly distributed between groups in society, nor is there a constant level of social cohesion over space (p. 21)." Similarly, Hipp & Perrin (2006) in their research state that local neighbourhoods with high cohesive levels will cause fragmented allegiance to the broader city. Moreover, Hannan (1998) states that it is assumed to be some natural good yet strong cohesion can be disabling and counterproductive. For instance, if a tie neighbourhood withdraws from a big city that may lead to less overall cohesion or in case that the neighbourhood is rejected by a city. Van Marissing (2006) points out that "social cohesion can be defined as the internal bonding of a social system such as a family, a group, an organisation, a University, a city or a society as a whole (p. 281)." They also cite that social cohesion is regarded as remedy for various societal problems such as social exclusion, changing common values and norms.

The horizontal and vertical aspects are studied in order to measure the state of social cohesion. Chan and Chan (2006) conducted the first social cohesion survey in Hong Kong and revealed that social cohesion involves two aspects; the objects and the manifestations of cohesion. The authors also considered the horizontal aspect as the feeling and behavior of members in the society and the vertical aspect as the relationships between the members and the state. They stated that horizontal social cohesion is different from the concept of social capital which Putnam referred (1993, cited by Chan and Chan, 2006) to as "features of social organization such as networks, norms and trust that facilitate coordination and cooperation for mutual benefits." Social capital is defined as a set of horizontal associations between people, such as networks of civic engagement which mediate norms and operation rules of society and

generates and reinforce trust in the credibility of these rules in social relationships. Islam et al. (2006) divide social capital into bonding social capital and bridging social capital. Bonding refers to trust and cooperative relation between members of a network and bridging refers to relations of respect and mutuality between people who know that they are not alike in social identity. Bonding and bridging characteristics of social capital provides the means to identify the direction in which networks, norms and sanctions operate. This conceptualization highlights the difference between horizontal bonding made possible by strong intra-community and kinship tie, and vertical bridging/linking across-cultural groupings, occupations and organisational hierarchies made possible by weak, extra-community networks (Halpern, 2005).

In addition, there is the relationship between social cohesion and urban governance. When social cohesion is to be connected to urban governance, it is crucial to consider social cohesion level among people. Van Marissing et al. (2006) emphasize the relationship between urban governance and social cohesion. This relationship between the authorities and residents is very important. They introduce the concepts of horizontal and vertical cohesion where horizontal is about the cohesion among residents and vertical cohesion represents contacts between citizens and the government or policy makers or stakeholders.

To define social cohesion, it is important to understand the concept. It is recognised that there is no standard definition and no clear understanding of the term anywhere (Jeannotte, 2003). The concept of social cohesion is unclear and misleading. It is a social concept that there is not consensual definition. Social cohesion is introduced by Emile Durkheim (1897, quoted in Jenson, 1998) who firstly popularise the concept due to social change provoked by industrialization, urbanization, massive immigration and population movement, and changing social roles. He identified the existence of two distinct systems of solidarity to explain the social dimensions of this transformation, one mechanical (based on family ties and personal, face-to-face relations typical of subsistence-based communities) and the organic (based on impersonal, abstract social ties typical of more urban and industrial settings). He stated that a cohesive society was dependent on shared loyalties which residents owed to each other and to state according to the ties of interdependency.

At the time, a number of researches have worked on clarifying the concept of social cohesion. The definition has significant consequences for what is analyzed, what is measured, and what policy action is considered. Therefore, to understand basically the concept of social cohesion, this research shall review various literature. In the literature reviewed, social cohesion can be considered as a key social scientific concept in such a way of four quasi-concepts such as wealth, poverty, social capital or social class (Beauvais & Jenson, 2002). It can be referred to the coherence of a social and political system, ties, solidarity and involvement (Dekker, 2006). Roughly speaking, social cohesion is developed into two approaches; the mean-end approach and the pluralistic approach. Following Chan et al. (2006), the mean-end approach regards cohesive society as an end, but identifies social cohesion in terms of the means through which this end can be achieved. They explain that social cohesion requires people's participation, cooperation, and mutual help. For instance, these means may take the form of some policy goals, of factors or conditions that are thought to be favourable to social cohesion. For instance, Berger-Schmitt and Noll in their research (quoted in Chan et al., 2006), state that social cohesion involves two societal goal dimensions. These are (1) reduction of disparities, inequalities, and social exclusion and (2) strengthening of social relations, interactions and ties. The pluralistic approach, it illustrates the multiple possibilities in defining social

cohesion. For instance, Beauvais and Jenson (2002) examine five different conceptions of social cohesion as common values and a civic culture; social order and social control; social solidarity and reduction in wealth disparities; social network and social capital; and place attachment and identity. Jenson (1998) reveals concerns about social cohesion as a product of the times and mapping exercise in Canada. She argues that social cohesion is used to describe a process more than a condition. "The ongoing process of developing a community of shared values, shared challenges and equal opportunity based on sense of trust, hope and reciprocity (p.4)." Five dimensions of social cohesion, that include belonging, inclusion, participation, recognition and legitimacy, are made use to map Canadian cohesive society. The author concludes that the concept of social cohesion remains a contested concept. How social cohesion is defined depends on the problem that the policymakers and researchers focus on. Social cohesion is addressed in context of a lack of social life foundations. Public institutions fail to manage conflict. They tend to downplay the notion of conflict. Five dimensions identified also are not as constitutive of social cohesion incorporating attention to conflict management. This is a challenge to public institutions. To have a better understanding of social cohesion, its concept should be mapped and linked with a variety of other different but closely aligned concepts such as substitutes for social cohesion (**reference???**).

The concept of social cohesion refers something is not only positive but also negative aspect such as people are excluded from cohesive groups. Van Kempen and Bolt (2009) state that "the problematic aspects of the policy discourse on social cohesion are that the focus is often restricted to the level of the neighbourhood and that there is a lack of attention for possible negative aspects of social cohesion. The idea is that social cohesion is a bottom-up process: the quality of social integration at the neighbourhood level is the basis for social cohesion at high scale levels. However, social cohesion at the neighbourhood or district level is not necessarily positive (p. 3)." Hence, it is crucial that the way social cohesion is defined actually matters to what local authorities and other bodies really do (Department for Communities and Local Government, 2006).

At the neighbourhood level, Kearns and Forrest (2000) provide the concept of social cohesion into elements which pertain to various dimensions of social cohesion at different levels, which are national, city and neighbourhood level. Five dimensions are given; (1) social networks/social capital, (2) Common values/civil culture, (3) Place attachment, (4) social order/social control, and (5) social solidarity/ wealth disparities. They apply social order/social control and social solidarity/wealth disparities at the neighbourhood level. These mentioned dimensions are assumed to reinforce each other. For instance, when people have the similar opinions about life (shared norms and values), the chance of making social contacts is greater and the sense of belonging of a certain group or neighbourhood is reinforced. However, Dekker and Bolt (2005) state that there is hardly the interrelatedness of all dimensions of social cohesion as well as these dimensions cannot be considered to be interchangeable. Social cohesion concept is not able to be seen as a single notion; however, it is considered as "a domain of causally interrelated phenomena or as a class of causal models" (Friedkin, 2004, p. 409).

According to Kearns & Forrest (2000), their work tries to make a relation between different social cohesion dimensions and different spatial scales for which policies may be formulated and implemented to deal with these dimensions. They point that "the kernel of the concept of social cohesion is that cohesive society hangs together and all the component parts somehow fit in and contribute to the society's collective project and well-being, conflict between

societal goals and groups, and disruptive behaviours which are largely absent or are minimal (2000, p.996)". Social cohesion is multidimensional and it corresponds to different spatial scales of public policy. This paper attempts to make clear and set up various components that can make up a cohesive society. The dimensions of social cohesion here are to common values and a civic culture; social order and social control; social solidarity and reductions in wealth disparities; social networks and social capital; and territorial belonging and identity. According to Table 2.1, the research tries to disaggregate the term of social cohesion into its key constituent components and to discover the ways in which social cohesion dimensions could be pursued at national/interurban, city/city-region, and neighbourhood level. At the national/interurban scale, common values and reduction of wealth disparities between regions and of tensions between the major conurbations are promoted. At the city/city-region and neighbourhood level, the approach to the social cohesion agenda partly results from political initiatives at the national level. Thus, civic culture (local politics), social control in public space and identity are focused on at the city/city-region level. At neighbourhood level, policy emphasizes on social exclusion. Social order and social capital are more given attention. The authors added that the policies are intervened by other processes operating at different spatial scales. In order to achieve social cohesion, understanding these differences and tension among scales are required.

Dimension of social cohesion	National/Interurban	City/City-region	Neighbourhood
Common values/ Civic culture	✓✓	✓✓	✓
Social order/ Social control		✓✓	✓✓
Social solidarity/ Wealth disparities	✓✓	✓	
Social networks/ Social capital		✓	✓✓
Place attachment/ identity	✓	✓✓	✓

✓✓ Domain in which urban governance attention and efforts are clearly evident.

✓ Domain in which there is a case of greater attention from urban governance.

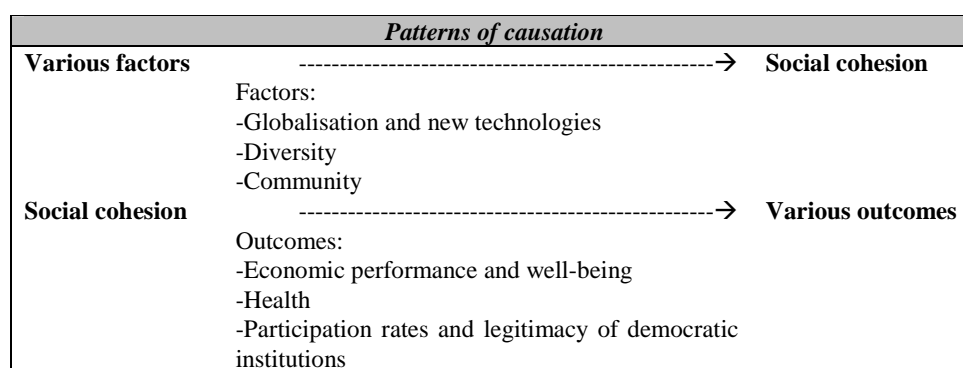
Source: Kearns & Forrest (2000)

Table 2.1 Addressing social cohesion at different spatial scales

2.1.3. Social cohesion measurement

The different notions of social cohesion affect the operational aspects of measurement. To measure social cohesion level, empirical analyses and indicators are needed. Measuring social cohesion has been improved considerably. There is a multiplication both of measures and empirical analyses. For instance, in terms of social solidarity and patterns of distribution, inclusion/exclusion aspects are measured such income distribution, poverty and a range of inequalities. As for social network and social capital, rates of participation, membership and trust are operationalised. In Beauvais and Jenson in their research (2002), they point that when social cohesion is analyzed as an outcome, the factors affecting it can be grouped under the headings of economic restructuring, diversity, and the characteristics of some communities. Rather than focusing in one particular direction, tendency to see social cohesion should be given in all directions to increase the interaction between different groups so that social cohesion becomes more interactive. They note that it is possible to separate the study of social cohesion into two groups; one that treats social cohesion as a consequence and a cause (Table

2.2). As for a cause, one of the earliest ways of analyzing social cohesion is to see it as threatened by external economic factors, such as globalisation or a fragmenting social order. Two elements of change; new technologies and globalized market, and their effects on social relations are studied. This perspective, focusing on threats, reveals concerns about socioeconomic threatening to social cohesion and mechanisms to protect it. A second group of research is to see societal diversity as a factor which potentially undermines social cohesion. Hence, social cohesion is defined in which social solidarity and common values are constitutive elements. This addresses both positive and negative potential. Finally, the importance of community ties for social cohesion is acknowledged by those who define social capital and social network as the constitutive elements of social cohesion. In order to treat social cohesion is to focus on what social cohesion does. This emphasizes its contribution to or implication for growth, well-being, and participation.



Source: Beauvais & Jenson in their research (2002)

Table 2.2 Patterns of causation

The European Union (2000) shows concern with state of social cohesion, measurement issues, and asking how it is doing. They have developed structural indicators in four policy domains which are employment, innovation, economic reform, and social cohesion. These indicators are purposed to measure progress in each domain. As for social cohesion, the indicators include the degree of poverty and income dispersion, the associated risk of social exclusion, and regional disparities. Berger-Schmitt in her work (2002), she conducts the operationalisation and measurement of social cohesion combined attention to distribution and to social ties. Two dimensions of social cohesion are provided which are to reduce disparities and to strengthen social ties. With respect to reducing disparities, regional disparities as well as inequalities between men and women, generations, social strata are measured, while the presence of social relations, engagement, quality of relations are measured in respect to strengthening social ties.

The Organisation for Economic Co-operation and Development, OECD, (2009) also shows social cohesion and equality indicators (Table 2.3). In point of view of OECD, social cohesion policy goals are reflected. For instance, helping to ensure equal access to education, promoting effective and accessible health systems, fighting social exclusion and unemployment, and bridging the digital divide between rich and poor groups are encouraged. Social cohesion indicators, self-sufficiency indicators and equity indicators cover many domains which are given; income, wage and poverty, gender equity, public and private social expenses, strike, group membership, voting, and deviant behaviours.

European Union	OECD
Reduction of disparities and social exclusion -regional disparities -equal opportunities (between gender, different social strata and groups) -social exclusion Strengthening of social capital of a society -availability of social relations -social and political activities and engagement -quality of societal institutions	Equity indicators -income inequality -poverty / poverty among children -adequacy of benefits -public social spending -old-age pension replacement rate -pension promise Self-sufficiency indicators -employment/unemployment -jobless households -childcare -educational attainment Social cohesion indicators -strikes -suicide -crime -juvenile crime -teenage births -prisoners -drug use and related deaths -group membership -voting

Source: European Union and OECD

Table 2.3 Social cohesion indicators in European Union and OECD

In addition, it shows the development of social cohesion measurement stems from theoretical and empirical research. For examples, Chan et al. (2006) in their research showed concern with developing a definition of social cohesion and framework for empirical study. The authors review other literature and purpose their own concept of social cohesion as a state of affairs. "Social cohesion is a state of affairs concerning both the vertical and the horizontal interactions among members of society as characterized by a set of attitudes and norms that includes trust, a sense of belonging and the willingness to participate and help, as well as their behavioural manifestation (p.290)." Their proposed framework concerns both two-dimension (vertical and horizontal) and two-component (objective and subjective) interactions (Table 2.4). The authors apply two-by-two framework with more specific proxies to measure social cohesion as well as compare its level in different societies. The used measurement is a composite of both individual and group level data, according to their own proposed definition that includes only the essential constituents, not causes or effects. The dimensions like inclusion, equal opportunity, tolerance or shared values are excluded.

	Subjective component (People's state of mind)	Objective component (Behavioral manifestations)
Horizontal dimension (cohesion within civil society)	General trust with fellow citizen	Social participation and vibrancy of civil society
	Willingness to cooperate and help fellow citizens, including those from "other"	Voluntarism and donations
	Sense of belonging or identity	Presence or absence of major inter-group alliances or cleavages
Vertical dimension (State-citizen cohesion)	Trust in public figures	Political participation (e.g. voting, political parties etc.)
	Confidence in political and other major social institutions	

Source: Chan et al. (2006)

Table 2.4 Measuring social cohesion: a two-by-two framework

Issue of social cohesion measurement in terms of material deprivations with example of neighbourhood in England and Scotland was studied by Stafford et al. (2003). Even though they do not propose their own term of social cohesion, they quote Lavis and Stoddart's concept (1999, p.8) that define social cohesion as "the networks, norms and trust that bring people together to take action". This research tries to investigate the relationship between material deprivation and demographic characteristics of the resident population by developing social cohesion construct, based on the structural aspects of social cohesion and the cognitive aspects. Electoral ward boundaries in England and postcode sectors are applied to define as neighbourhoods. The authors conclude that social cohesion varies across neighbourhoods, according to material deprivation and the socio-demographic element of neighbourhood. Material deprivation is associated with low levels of trust, sense of attachment, practical help, and tolerance. People who live in materially deprived area are exposed to a poorer social environment. In materially deprived neighbourhood areas, people have fewer financial resources as well as they tend to have more contact with other residents being likely to be less well off. They also point that both horizontal and vertical relations within a society should be considered. However, this research does not include the differences in level of social cohesion between neighbourhoods.

Simply put, to operationalise social cohesion measurement, the indicators are needed and depend on the definition employed in order that governments are able to develop their roles and the policies to ameliorate the experience of disadvantage neighbourhoods.

2.2. The Netherlands experience

As mentioned above, social cohesion is a broad concept that deals with relationship between people. As well, social cohesion and social exclusion can be complementary. There has been a great deal of political and policy attention for the term of social exclusion recently. There is little clarity about the term of social cohesion means precisely.

2.2.1. Dimensions of social cohesion

In the Netherlands experience, the National Public Health Compass (2009) notes that social cohesion is referred to the degree of connectedness and solidarity within groups and communities. Social cohesion is the extent to which people experience in their behaviour and express their commitment to social relationships in the personal lives, in society as citizens and as members of society. Relation to the environment is of central importance both in perception and behaviour. Social cohesion is a sociological term that refers to a social system such as family, neighbourhood, community and also illustrates the characteristics of group or community. Social cohesion can be divided into three components. Bolt and Torrance (2005, quoted in National Public Health Compass, 2009) define social cohesion as (1) social participation (behavioral component) refers to people interaction and participation in social life, (2) shared beliefs (norms and values component) includes the values, social control, and (3) identification (perception component) includes feeling of connectedness, sense of belonging. Even though social cohesion is seen as something positive, it is also negative. Social cohesion within a group in parallel means that other people outside are not part of this group. It provides separation between people inside and outside the group. Strong internal social cohesion can coexist with the exclusion of others lead to peer pressure and strong social control. In addition, social cohesion has linkages with the concept of social capital. Benefits of social capital is that it can help people contact with each other in an effective manner.

Dekker (2006) in her study tries to examine the extent to which there is an evidence that urban governance is involved to social cohesion in post-WWII neighbourhood in the Netherlands. The author points out that the high level of social cohesion is not just good because the condition of social cohesion can limit people from inclusion in mainstream society and it may lead to conflicts between groups. In order to enhance social cohesion in neighbourhoods should regard whose cohesion is aimed at. It is very useful to consider whether it is social cohesion within the neighbourhoods, it is cohesive society of certain group or community, and a form of cohesive society makes people belonging to the neighbourhood part of the urban or national society. This matter helps to decrease the negative side of social cohesion. The different levels of social cohesion are able to imply different policies or actions. Enhancing social cohesion at the neighbourhood level may focus on the dimension of neighbourhood attachment and social networks, such as encouraging the refurbishment of public space and participation, in order to build residents' feeling that they are part of society. One approach used to achieve social cohesion in the neighbourhoods is to establish a social mix. Due to different background, this mix refers to putting together people with different education and ethnic groups. Different households also mix the characteristics of the populations; however, they may not interact socially. Increasing in diversity of population can lead to hatred feeling in neighbourhood or hide the fundamental economic and social problems.

In addition, the research conducted by Van Marissing et al. (2006) show the link between the terms of social cohesion and urban governance in Dutch Western European neighbourhoods. These neighbourhoods are subjected to urban restructuring policies. The authors attempt to find out if the process of urban governance can create more cohesive society at neighbourhood level. Horizontal (cohesion among citizens, persons, residents), vertical (cohesion between citizens on the one hand and policymakers on the other hand) and institutional (cohesion among policymakers), three different types of social cohesion, are introduced. These three concepts are linked to three models of citizen involvement that are the discussion model (linked with horizontal cohesion), the participation model (linked with vertical cohesion) and the voice model (linked with institutional cohesion). In order to improve the form of social

cohesion, the characteristics of social networks are regarded. The authors suggest that the concept of social cohesion relates with many dimensions and there is no guarantee of success on every dimension. Moreover, the urban governance can appear in many forms and have different effects in different situation.

The influence of social cohesion of group or community is measured at the individual level by considering the participation in formal organisation and informal social contacts, and degree of identification with group or community. As well, the trust is considered. With respect of informal social contact, this refers to neighbour contacts. The involvement in the wider society is donating to charity or doing volunteer work and political participation. As mentioned to social cohesion and social exclusion can be complementary, Jehoel-Gijsbers (2004) states that there is a deal of political and policy attention for the theme of social exclusion. The theme of social exclusion is set to remain on the policy agenda. The approach to measure a level of success in achieving the objective is vague, even though reduction of social exclusion becomes a key objective in policy. The policy to overcome social exclusion will have to be evaluated and establish what social exclusion involves, what indicators can be applied, and which factors influence it. In her study, the characteristic of social exclusion is divided into economic/structural exclusion and socio-cultural exclusion. Then, the individual dimension of social exclusion and the general index are constructed, which are given; (1) material deprivation; (2) social rights: access to institutions and provisions; (3) social rights: access to adequate housing and safe environment; and (4) cultural/normative integration.

2.2.2. Social cohesion measurement

There are the different aspects of the social cohesion concepts. When social cohesion is conducted at the neighbourhood level, the individual is considered as the foundations of the group process. In Dekker's study (2006), social cohesion consists of social network, common values, and place attachment and identity. The study is based on empirical research and the used method to measure social cohesion is a quantitative representing the feelings and actions of individuals. Several measures are composed to represent three dimensions of social cohesion. First of all, dimension of social network is measured by using three indicators which are given; (1) the importance of the neighbourhood for the circle of fellows; (2) having family members in the neighbourhood; and (3) chatting with neighbours. Second, common value dimension consists of two indicators that are composed from the respondents' reactions to eight descriptions of deviant behaviour. These descriptions point out the attitudes towards social behaviour, childrearing, respect for generally agreed rules, and feeling to social welfare system. The answer is measured by point-scale. Finally, place attachment and identity is measured by 15 statements to which the residents are asked to react on a Likert scale. These statements refer to feelings related to the neighbourhoods and the matter that they derive part of the identity from the place they live.

In The Netherlands Institute for Social Research | SCP at a glance (2008), issues of social cohesion in terms of the social engagement of citizens, the mutual solidarity and the degree of connectedness to the greater social whole are viewed. Other aspects like shared norms and values, a sense of collective identity, loyalty to the political system, social integration, combating exclusion, a willingness to bridge social differences, vital social networks and social capital are included. However, there is no measurement approach. Social cohesion is not easy to measure due to it is used as a measure itself. "Social cohesion is something that always seems to be absent or in short supply (p. 9)." In this study, it tries to show how social

cohesion is given form in family, neighbourhoods, associations, education, labour market and ethnicity.

Dekker & Bolt (2005) tried to demonstrate and measure the differences between socioeconomic and ethnic groups relating three different dimension of social cohesion with examples of Post-war estates in the Netherlands. These dimensions are social networks, common values and place attachment and identity. Composition of the measurement of social cohesion and series of regression equations are used. The authors conclude that the quantitative analyses showed clear differences between native Dutch people and other ethnic groups. However, socioeconomic characteristics do not lead in all dimension of social cohesion to differences in the degree of social cohesion. The increase in diversity of socioeconomic or ethnic groups in deprived urban areas would lead to less cohesive society.

2.2.3. The significant role of government policies

The Netherlands has a long history of developing urban policies to state urban problems. The attentions are focused on the characteristics of urban issues in order to ameliorate the disadvantaged conditions. Social cohesion and social mix become outstanding on many policy agenda (van Kempen & Bolt, 2009). The Dutch government pays more attentions to the issue of social cohesion or integration and foster the social mix as a solution for a lack of social cohesion in neighbourhood level. They adopt area-based and integrative policies to overcome the problems with respect of physical, economic and social terms. Urban policy in general and urban restructuring has a goal to enhance social cohesion. This is an important goal of the social pillar of Dutch urban restructuring policy. Restructuring policies are carried out at national as well as at neighbourhood level. Policymakers and researchers try to combine expertise with financial and human resources in dealing with the economic, social and physical aspects of cities in an integrated and area-based method. This is different from previous policies in the Netherlands. Big Cities Policy, which is evaluated in terms of success and failure, is area-based, integrative, based on contracts, and governance-oriented (Dekker & van Kempen, 2004). It includes the integration of the physical, economic and social realms. Since 1994, the main goals of Big Cities Policy are to mixed neighbourhoods, stable neighbourhoods, stronger neighbourhoods and integrated neighbourhoods. This policy is the key instrument to improve the situation of the distressed neighbourhoods. All Big Cities Policies focus on the reduction of the number of persons with inadequate educational skills, diminish criminality and unsafe environments, tackle high unemployment rates, reduce outmigration of middle class and support economic vitality. They also try to remove dilapidated housing and commercial buildings, to overcome insufficient infrastructures and the resulting poor accessibility, which build obstacles to progress. Hence, the main concepts in organisational terms highlight integrated, area-based and decentralized approaches. Musterd and Ostendorf in their study (2009) state that the integrated policies may be useful to overcome certain societal problems and it is important to carry out simultaneously the physical, economic and social policies. If the neighbourhood level is focused on, all policies should be taken with reference to each other. In addition, this requires the suitable analyses to determine which areas should be targeted. The policies aim to improve the physical quality and liveability of the neighbourhood as well as improve social cohesion at the local level.

In addition, to foster social cohesion is to shift from government to governance. Dekker in her research (2006) pays more attention to the relationship between changing institutional arrangements and social cohesion. The author points out that resident can have strong say in

decision making process in their neighbourhood. Due to participation, they know how to behave and express their feeling of belonging to the neighbourhood. This leads to cohesive society as well as the higher levels of participation. Therefore, it is important that the local private and public parties should enhance social cohesion in the neighbourhoods by encouraging the residents to decision making procedures. Both local and national governments should take action to facilitate diversity in the governance process in the neighbourhood levels. The national authority may facilitate long-term span phase.

2.3. The United Kingdom experience

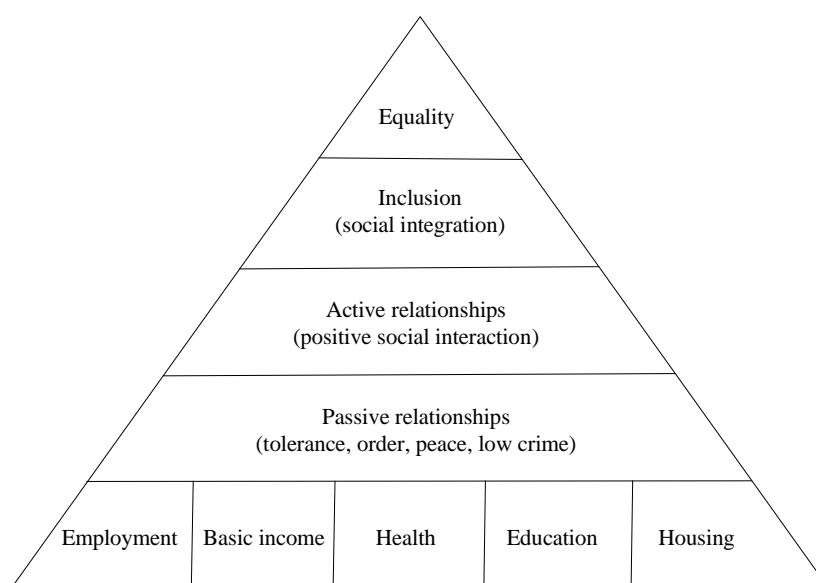
In case of United Kingdom, the study of the state of social cohesion in English (2006) focuses on four themes which are patterns (the significance of cities to society); trends (the recent social change in cities); processes (the determinants of social change); and policies (the role of government policies and the issues still to be addressed). The government has set out eight key principles on cohesion. They consider cohesion as the relevance to all parts of the country; to build cohesion has wider benefits to individuals, groups and communities; solutions are local and one size does not fit all; cohesion is not only race and faith issue, but also all parts of the community; to improve cohesion is about multiple actions that tackle a range of causal factors; to improve cohesion is to targeted actions and take account of cohesion in the delivery of other services; good practice in one place may not be transferable to another, but it can inspire an action that will work in another place; and finally, delivery is about common sense solutions that will help people get along better, that is what will make the vision a reality.

2.3.1. Dimensions of social cohesion

In the English neighbourhood experience, social cohesion can be seen as a multi-faceted notion which conveys several kinds of social phenomena. As for an assessment to the state of social cohesion with four mentioned themes, five dimensions of social cohesion are used and bear upon each other (Figure 2.1). First of all, the material conditions of social cohesion, that are employment, income, health, education and housing, are paid more attention. This is a basic need of living and a foundation of a strong social fabric. Next, the basic tenet of cohesion is social order, tolerance, safety, and peace.

Moreover, the study more incorporates the issues of social exclusion, e.g. unemployment and deprivation, and social inclusion. There are three dimensions as a core of the definition of social cohesion, which are given below;

- Social relationships: there are passive and active aspects. First, the acceptance of difference between and within communities, which means to a state of order, stability and security, and an active aspect that refers to the positive interactions and exchanges between and within communities.
- Social inclusion: this refers to people's sense of belonging, attachment to a place, involvement or participation of disadvantaged groups in political, economic and social institutions, degree of civic engagement.
- Social equality: the level of disparity in access to material condition and opportunities refers such as neighbourhoods, communities, or social groups. Tight cohesive neighbourhood may come at the expense of another's exclusion.



Source: Department for Communities and Local Government (2006)

Figure 2.1 Different dimensions of social cohesion

2.3.2. Measurement of social cohesion

In case of English cities, a quantitative assessment of contemporary social conditions is used. The analysis is based on set of secondary data sources. Social cohesion measurement takes place at the level of individual cities and group of cities. In addition, the approach focuses on the underlying material conditions of social cohesion, that are income and deprivation; employment; education and skills; health; housing and residential segregation; and crime. These basic necessities of life are the foundations of a strong social fabric and important indicators of social progress.

In State of the English Cities Report – Social Cohesion (2006), the authors provide an assessment to the state of social cohesion with four themes under different circumstances in England. Four themes consist of patterns, trends, processes and policies. The authors also illustrate the five different dimension of social cohesion. They pay more attention to the material conditions of social cohesion, due to measurable and available data. The first dimension shows material conditions especially employment, income, health, education and housing. This reflects the foundations of a strong social fabric. Social order, tolerance, safety or passive relationships are the second dimension. Positive social interaction, exchanges, and networks between individuals and communities are the third basic. Extent of social inclusion, or integration in society, is referred. It includes sense of belonging and strength of shared experiences, identities and values. The last dimension is social equality. It includes the level of fairness or disparity in access to material circumstances. The authors conclude that the state of social cohesion differentiate depending on different spatial scales; e.g. cities, neighbourhoods, and particular social groups. The analysis is based on a range of secondary data such as the IMD 2004, population census, labour force and official benefit statistics. The analysis takes place at the level of individual cities and differences within them and groups of cities to compare various settlement kinds. The study tries to find out pattern and trends for different socio-economic, demographic and ethnic groups, where the data permits this level of disaggregation. As well, this study devotes to underlying material condition of social

cohesion, the quantitative analysis. Due to qualities such as tolerance, trust, disaffection, social interactions and sense of belonging, these are intangible and so difficult to measure. However, the conditions of social cohesion are challenges to policy making. The appropriate policies can respond to these differences. Policies differ widely in terms of the core issues that policymakers recognise. The policy priorities are able to expand people's opportunities and their needs according to the differences.

2.3.3. The significant role of government policies

Since social cohesion becomes a priority with far-sighted policies to encourage cultural interaction and progressive developments in education, housing, employment, community safety and sport for young people. In case of UK, the challenge to cohesion seems to stem not from a lack of growth and investment, but from the form of new development, which appears to have polarizing effects. The governments are able to contribute policies to economic and social progress in various ways. These policies may hold back success or promote. In UK, sustained policies to expand employment opportunities and help people to access jobs have proved crucial to lift household and communities out of poverty. Cities that have over the years ignored their physical infrastructure and the supply of employment land have paid the price and become less competitive business locations. Similarly, cities that have struggled to improve their education, housing and transport systems have also fallen behind average living standards.

There are three kinds of urban policies that are targeting need, seeking to expand opportunities, and seeking to link opportunities and needs. It is crucial that to avoid the opportunities and needs policies pursued independently of each other. However, the balance between these policies may differ across area depending on local conditions. The role of government will considerably focus on the poorest communities. This is a challenge to government in order to give a priority and contribute the available resources to these neighbourhoods such as commensurating the level of need for improved housing, better personal services, and enhanced education and learning facilities. Local sensitivities and concerns about being given priority are considered. Hence, there is scope for further encouragement and advice about the benefits and mechanisms of area targeting and community engagement. Concentrations of poverty are often localized symptoms of more generalized city wide problems, in which case it is difficult to provide lasting solutions if there are not opportunities available that enable general progression. The potential approach is to foster income and rate of employment. As a result, the challenge for government is to be aware of the importance of linking opportunities and needs more carefully to ensure the functioning cities and to assist devise institutional arrangements and practical ways of reducing the various barriers that prevent this from happening, discrimination, and skill mismatches. The implications are that social work interventions aimed at improving the experience of poverty would be better served by focusing on increasing neighbourhood social cohesion.

2.4. Conclusion

Social cohesion becomes a useful concept among the academic theory and policy. Social cohesion and urban governance become central in many scientific issues. It is usually seen as a positive phenomenon. The term is an increasingly popularity, even though it remains ill-defined.

At national and local policies, the concept of social cohesion aims to improve urban life. For instance, the Big Cities policy aims to improve cohesive society by developing physical, economical and social aspects. It is questionable if a physical renewal of a neighbourhood, for instance, leads to greater social cohesion, policymakers, therefore, should pay more attention to the unintended effects of the policy process. One way to achieve such cohesive neighbourhood is to create opportunities for social networks, empowerment of the residents and partnerships to evolve. Such networks among people in the neighbourhoods enable to be established and fostered by policy instrument of participation. Thus, social cohesion is fostered when people involve to the participation. The communication between citizens and policymakers becomes more important. Similarly, Van Marissing et al. (2006) stress that there are many actors, such as social housing associations, non-profit organisation, and residents, involved in the types of partnership that can affect cohesion at neighbourhood level.

In the literature, there are several dimensions that relate the individual to a broader social structure. Due to social cohesion can be seen as glue maintaining the members of a social system together. The individual is seen as the basis of the group that generate social cohesion. Thus, the degree of social cohesion is based on the members participate in the social system (Dekker, 2006). According to five dimensions of social cohesion based on Kearns and Forrest (2000) review, each dimension is interconnected. The relationship between social interaction and sense of belonging to their place is seen as reinforcement. The level of attachment is a consequence of the local interaction. In addition, not only the feeling attachment bring the desire to participate in social networks, but also the sharing of norms and common values. Nonetheless, the strong social cohesion on the lower spatial scale, or people feel strongly attached to their neighbourhood, may not share the common values to a broader society. This is also the negative affect of social cohesion in such a way of the exclusion of people from cohesive group. Moreover, social cohesion concept can be considered in terms of horizontal and vertical aspects. A horizontal aspect is concerned with behaviors of individuals in the society while a vertical aspect taps members between citizens and the authorities. Conceptualising social cohesion in terms of both horizontal and vertical aspects as well as among members of society and between societies will give more accurate and comprehensive picture of state of social cohesion at the neighbourhood level.

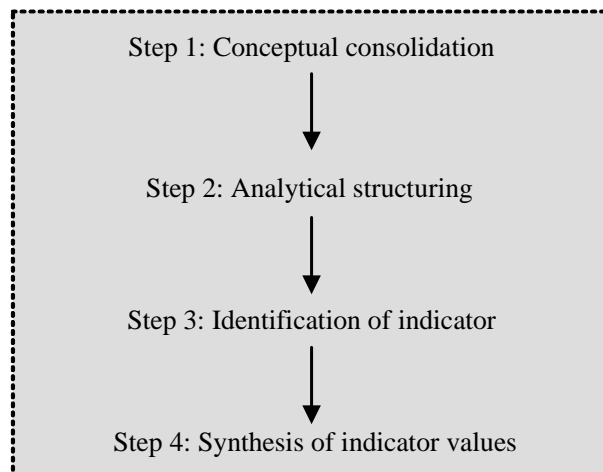
According to the literature, many authors and policymakers conceptualise social cohesion dimensions and indicators for measurement in different ways (see Appendix A). From Appendix B, it also found that several authors put the agreements on the dimension of social network, place attachment, common values, social order and wealth disparities, respectively. Social network is outstanding. Social network is based on a high degree of social interaction between persons within families, communities, or cities. Moreover, what is decisive is the kind of contact between people; a distinction is often drawn between bonding capital and bridging capital. Social capital is a form of capital that is derived from network (Portes, 1998). In terms of measurement, the operationalisation of social cohesion dimension can be justified based on horizontal and vertical aspects; subjective and objective component; and micro- and macro level. This distinction implies that cohesion is not only limited to individuals, but also it includes the various groups, organisations, and institutions that form society (Chan, et al., 2006).

3. Methodology

In order to understand and develop an approach to measure social cohesion, this chapter provides two parts. First, an overview of definition of social cohesion, dimensions and indicators development process is presented. Second, the part of analytical synthesis of indicators in order to measure and compare the level of social cohesion at the neighbourhood is presented.

3.1. Operationalisation of definition of social cohesion

According to Wong (2006), there are four steps within the methodological framework of indicator development (Figure 3.1). They are conceptual consolidation, analytical structuring, identification of indicators and creation of an index. Before processing the development of an indicator, it is important to simplify the basic concept in order to facilitate an analysis. “It is essential to clarify the content of any such concept to facilitate subsequent analysis and to avoid any attempt to create a multivariate index (2006, p. 106).” It is an important starting point to develop an indicator. The first step is the phase that defines social cohesion. This step affects the method used in measurement of social cohesion.



Source: Wong (2006)

Figure 3.1 The four-step methodological framework of indicator development

In the context of Enschede, lack of social cohesion is not a big problem as it occurs only in certain areas. However, the Municipality should develop the definition of social cohesion in order to understand its concept in common (Fransen, A, personal communication, January 21, 2010). In this study, it is important to come up with an understanding of social cohesion definition. To make a narrow definition is useful to facilitate a comparison the state of social cohesion over area. As well, the definition should be close to ordinary usage (Chan, et al., 2006). The presence of agreed definition can lead to a proper approach to measure social cohesion. As a review of literature, it recommends that the concept of social cohesion is imprecise which is dependent on the research one reads. Generally speaking, social cohesion can be understood as a state of affairs concerning how well people in a society “cohere”,

“trust”, “sense of belonging”, and “participate”. Therefore, it means that cohesion can be relevant to the level of cohesiveness of a group or community. Social cohesion can be defined as; individual’s interactions; feel at home; feel to stay together; hang or tie together; people have the same attitude; sense of belonging; social network; sharing norms (Grooter, J., personal communication, September 18, 2009 and Dekker, K., personal communication, October 8, 2009). Social cohesion can be defined as the connection to the place residents live and their environment (Bootsma, A and Wichern, M., personal communication, January 22, 2010). The causes and causality of social cohesion should always be considered. It is important to equate the concept of social cohesion with the concept of social capital (Denters, B., personal communication, October 12, 2009). This is about networks, trust, and norms. In addition, social cohesion can refer to social inclusion in terms of belongingness to the community, voluntary, engagement in the social network and participation in income or education, including social equality. This reflects people’s perception of social structure and people participation (Denters, B., personal communication, October 12, 2009). For instance, people participate in the labour market and in social life.

For the term of cohesion to be analytically useful, social cohesion can be understood as a multidimensional concept as mentioned in the theoretical section. It is possible to see that the major features of social cohesion are about social networks and social solidarity. Social networks concern with interaction and involvement, these are social capital as Putnam (1995) defines. The type of contact between people can be depicted between bonding capital and bridging capital. Bonding capital mentions to strong relationships that do not give much new information. It is to link people who are nearby. This tie limits the contact or network to outside world. Bridging capital mentions to weak relationships that give other people new information about the outside society. Bridging social capital is important with respect of social inclusion. It means to link people to the available resources and the relatives outside (Denters, B., personal communication, October 12, 2009). While, social solidarity encompasses both individual attitudes and structural arrangements. It includes the sense of belonging to a community, equality of opportunity in a market society, recognition of pluralistic values, and the existence of public and private intermediary organisations that bridge different social sectors.

This study also tries to differentiate between horizontal and vertical social cohesion and relate with the concept of bonding and bridging social capital. “having horizontal dimension which is concerned with both feeling and actions of member of society, and a vertical dimension that taps those between society and the government (Chan & Chan, 2006, p. 635).” Concept of social cohesion is to show how horizontal aspect – the behaviour of the member in society – and the vertical aspect, the relation between the members to outside society shape the state of social cohesion. Ideally, the restoration of vertical and horizontal social capital will support bonds, build bridges, and link vertical and horizontal relations thus strengthen the overall cohesiveness of society.

Based on the literature review and expert opinions (interviews), an intuitive definition of social cohesion might follow three criteria which are given below;

- To the extent that individuals and groups can cooperate, help, and trust each other
- To the extent that individuals and groups are held together
- To the extent that the interaction and relationship can be seen as horizontal and vertical conditions

As mentioned in the theoretical section (section 2.1.2), social cohesion dimensions are interrelated. These criteria imply to the sense of cohesiveness among individuals and between wider societies. With above discussion, social cohesion definition can be proposed below;

The concept refers to an attribute of society concerning both the horizontal and vertical interaction among individuals, groups and institutions as characterized by the existence of a sense of belonging, a participation, an orientation towards values and norms, an absence or minimum of conflicts, as well as well-being.

(adapted from Chan et al.,2006 and Kearns and Forrest, 2000)

The proposed definition tries to express the condition of cohesiveness in the society. The study justifies the distinction between horizontal and vertical interactions. The contacts among individuals, groups and institutions can make up a society. The groups can be referred to gender, age, ethnicity and religion. Due to the difference of people background, it is important that they respect this difference between each other. Also, the strong attachment to place can contribute the cohesiveness of society through the adherence to norms and common values, willingness to participate and social capital (bonding and bridging capital).

3.2. Dimensions and indicators proposal

An indicator is something that helps to understand where one is, which way one is going, and how far one is from where one wants to be. The purpose of indicator helps to facilitate an understanding of change over time. An indicator are widely recognised as normative in character (Wong, 2003). An indicator helps to recognise what needs to be done to solve the problem because it allows identifying where an issue area is. To develop an indicator is helpful to understand in a better way the problem of social cohesion, its components and the spatial concentration. An indicator of social cohesion can facilitate the applicability of policy and action. Also, the output should mean something to the local authority. According to Wong (2006), there are four step methodological framework of indicator development (Figure 3.1). This methodological framework starts working from general to specific stage.

According to Wong (2006), the first step to explicitly clarifying the concept and the policy context in terms of social cohesion in order to facilitate an analysis is in Chapter 2. Literature review and experiences of the Netherlands and UK context are useful to understand in terminologies, concepts of social cohesion, definitions and approaches to measure social cohesion.

In this study, five dimensions of social cohesion are represented which are social networks, place attachment, common values, social order, and wealth disparities. With respect to social networks, social cohesion refers to the ties between individuals, such as family and friends, within neighbourhood or society. As stated in Dekker (2006), social networks also relate to voluntary groups or associations such as sport clubs. People tend to have relationship with others who are similar to them. As for dimension of place attachment, the idea of this respect refers that people feel attracted to their place that can lead to feeling safety and image of area, can provide a bond between people, cultures and experiences, and can maintain group identity. Group of people are likely to have a common set of values that lead to mutual respect and understanding. In terms of social order, it interprets to the absence of general conflict and preparation of co-operate with one another to achieve common goals (Kearns & Forrest,

2000). Due to diverse groups, it may cause the problem of respecting cultural difference. The problems with social order are about issues of crime, incivility and informal social control. This can happen when people have no routines. Finally, social cohesion in the context of reduction of wealth disparities implies to collective well-being, extending opportunities for income-generating activities; decreasing in poverty, income, and unemployment; and opening access to services.

As mentioned above, the dimensions of social cohesion that several authors mostly agree according to Kearns and Forrest's study (2000) (see Appendix B). Hence, based on the literature review and collected information, the proposed dimensions of social cohesion and indicators are as well identified with the horizontal and vertical aspects (Table 3.1 and Appendix C). The elements of the social cohesion dimensions and their indicators stem from a literature review. This is the second step to provide an analytical framework within which indicators are collated and analyzed. As for the spatial unit of indicators, it is based on the neighbourhood level in Enschede. Social cohesion is measured by using either horizontal or vertical perspectives at the neighbourhood level (spatial unit). Horizontal and vertical terms reflect people's participation and their perception of social structure. These perspectives are combined in order to operationalise a framework for measuring social cohesion in the analysis section.

In order to measure social cohesion according to the analytical framework (Figure 3.1), the third step is about the translation of key factors identified in the second step into specific measurable indicators. Based on literature review and verbal communication (interview), the proposed indicators are drawn up and later verified based on requirement. Five dimensions; social networks, place attachment, common values, social order, and wealth disparities are relevant for describing social cohesion (Fransen, A., personal communication, January 21, 2010 and De Haan, A., personal communication, January 26, 2010).

The indicators are justified into horizontal and vertical aspects. It is possible that some indicators are defined either horizontal or vertical aspects. This is dependent on the extent that indicators are rationalised. The indicators are shortly described. From Table 3.1, the dimension of social networks consists of public library members (vertical), youth participation (vertical), and electoral participation (vertical). The dimension of place attachment consists of length of residence (horizontal), houses with owner-occupiers (horizontal) and people aged ≥ 65 (horizontal). Non-Dutch ethnicity (horizontal) and party voting (vertical) indicators are included in the common values dimension. Crime (horizontal) indicator belongs to social order dimension. Finally, the dimension of wealth disparities consists of income (vertical), unemployment (vertical) and education (vertical).

Dimension	indicators	Definition	Horizontal/Vertical Aspects
1.Social networks	-Public library members	-Percentage of public library members	- vertical
	-Youth participation	-Percentage of youth participation	- vertical
	-Electoral participation	-Percentage of voter who have county rights	- vertical
2.Place attachment	-Length of residence	-Average living period	- horizontal
	- House with owner-occupiers	-Percentage of houses with owner-occupiers	- horizontal
	-Age ≥ 65	-Percentage of people aged ≥ 65	- horizontal
3.Common values	-Non-Dutch ethnicity	-Percentage of non-Dutch ethnicity	- horizontal
	-Party voting	-Percentage of party voting	- horizontal
4.Social order	-Crime	- Percentage of crime rate (physical + social crime rate)	- horizontal
5.Wealth disparities	- Income	- Average personal income	- vertical
	-Unemployment	-Percentage of unemployed in comparison to the percentage of the total labour force	-vertical
	- Education	-Percentage of population aged 15-17-year-old enrolled in schools.	- vertical

Table 3.1 Proposed dimension, indicators and interpretation of social cohesion

Besides, in order to see the interrelation between indicators and dimensions of social cohesion, Pearson's correlation was applied. A correlation measures the degree of association between the variables. The correlation coefficient lies between -1 and +1. Positive values for the correlation imply a positive association while negative values for the correlation imply a negative or inverse association. Social cohesion in one dimension/indicator should go in hand with another dimension/indicator; otherwise, the relationship would be reversed.

3.3. Analytical synthesis of indicators

• Standardization technique

Indicators themselves are not meaningful unless they are simplified of their values and interpretations. Following Wong (2003), the key concern of indicator development is how to provide the synopsis of the concept being measured. In case that indicators are applied to the decision-making, indicator concept has to be sharpened. The techniques used to simplify indicator values and create composite indices are provided below. This represents, translating conceptual framework into the quantitative aspect. This is the last step involving with synthesizing the identified indicators into composite index/indices or into analytical summary. There are constraints on the selection of indicators and the problems of their quality are mainly due to available data. Therefore, it is important to examine the properties and reliability of individual indicators in the process of creating a combined index. The step 4 of the methodological framework of indicator development is described in the next section.

This study proposed an alternative approach to analyse and present the levels of social cohesion using the z-scores (standard deviation scores). Standardization is used to compare the indicators by providing a consistent scale of measure to avoid the exaggerated influence of certain indicators. The z-score was used to describe the whole distribution. This method expressed the value of an indicator for a spatial unit as the number of standard deviations from the average of all spatial units concerned. The z-score is created for the purpose of combining scores or values coming from the different scales or with the different units of measurement. It provides the information about the standing of each neighbourhood's value relative to a reference population. Thus, when the z-score transformation is applied to the indicator value, the value of each neighbourhood is expressed as the number of standard deviation (or z-score) above or below the mean value of the reference population.

$$Z_a = (X_a - M_a) / SD \quad (3.1)$$

Where:

Z is the score for indicator 'a' in a neighbourhood (spatial unit)

X_a is the percentage value of indicator 'a' for the neighbourhood

M_a is the mean percentage value of indicator 'a' for all neighbourhoods

SD is the standard deviation of the indicator for all neighbourhoods

Z-score assumed the original indicators were independent and normally distributed. As for interpretation of z-score, the benefit and cost criteria are considered. Since the indicators from non-Dutch ethnicity, crime rate and unemployment are considered as the cost criteria for social cohesion, the low values of the indicators which are less than the mean are transformed into positive values, whereas, the high values of the indicators which are more than the mean are transformed into negative values.

In this research, the mean z-score has the advantage of describing the condition of social cohesion for the entire neighbourhoods. The z-score approach expresses the value as the numbers of standard deviations or z-scores below or above the reference mean value. If a mean z-score significantly lower than -0.5 of the expected value for the reference distribution, then the entire distribution shows a downward trend. In case of social cohesion, z-score cut-off point of standard deviation is classified into five classifications. If z-score value is lower

than a mean z-score, then it is classified as low social cohesion. If z-score is between -0.5 to 0.5 then it is classified as moderate social cohesion. If z-score is above 0.5, then it is classified as high social cohesion. A mean z-score can be used as a cut-off point to discriminate between high and low social cohesion. This results increase in awareness that if social cohesion condition is low then an intervention is required for such neighbourhoods.

- **Weighting technique and composite index**

In order to make an indicator set less complicated, individual indicators are aggregated into a single composite index. The weighting technique is a method to assign the parameters into the theme to give the level of importance upon the indicators before combining them into the composite index. After that, the neighbourhood ranking is constructed based on the index produced.

The equal weighting is used. This method is the most frequent technique used by setting the normalized weight to be equal for all indicators (Wong, 2006). Since this technique is to keep all indicators or theme equally important, it is difficult to point out the neighbourhood which relates with particular indicators or theme such as social networks.

3.4. Comparing the horizontal and vertical aspects

The comparison phase of the horizontal and vertical aspects was done in order to reveal the relative condition. The condition of social cohesion in each neighbourhood is identified as a state of strong cohesion within (horizontal cohesion) or to the society at large (vertical cohesion) based on the score systems. The method is to reduce the value of indicators into a small range of score, that is 1-5 (low-high) and combine the scores across all indicators according to horizontal aspects and vertical aspects of social cohesion. The score is divided by the number of neighbourhoods in order to find out the average score. The average score of horizontal aspects and vertical aspects is applied to differentiate between good and bad condition.

3.5. Conclusion

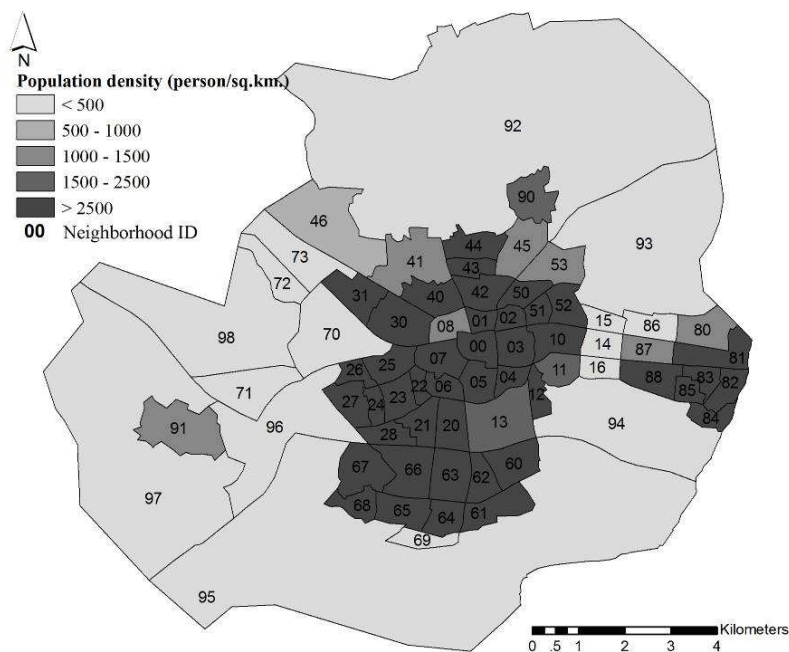
The measurement of social cohesion has been accepted as a good exercise for the society. To avoid constructing multivariate index of social cohesion, four step of the methodological framework of indicator development is carried out. The concept of social cohesion is developed in order to create the relevant indicators and dimensions. However, it is seldom to find the perfect indicators representing the dimensions of social cohesion. In the analytical synthesis part, the standardisation (z-score) and weighting techniques are applied in order to construct an index of social cohesion.

4. Results

The chapter deals with an assessment of social cohesion dimensions, indicators and the state of social cohesion by developing a two way matrix. The combination of horizontal and vertical measures allows the comparisons of the possible variations between the two perspectives. Depending on the level of cohesion that is measured by horizontal and vertical indicators, there are strong social cohesion within and to the society at large, individualistic neighbourhood with linkage to the larger societies, strong cohesion within but not linked to the outside world, and excluded neighbourhoods with excluded people.

4.1. Description of the neighbourhoods

According to the census data in year 2007, the total number of population is approximately 154,000 persons (The Municipality of Enschede, 2009). In Enschede, Dutch are majority group, approximately 68%, whereas, 32% are non-Dutch people. Figure 4.1 represents the population density (per square kilometre). It was observed that the high population density mostly agglomerated around the centre of city. 43 out of 70 neighbourhoods have a share of population density greater than 2500. Obviously, the neighbourhoods outside are low density obviously.

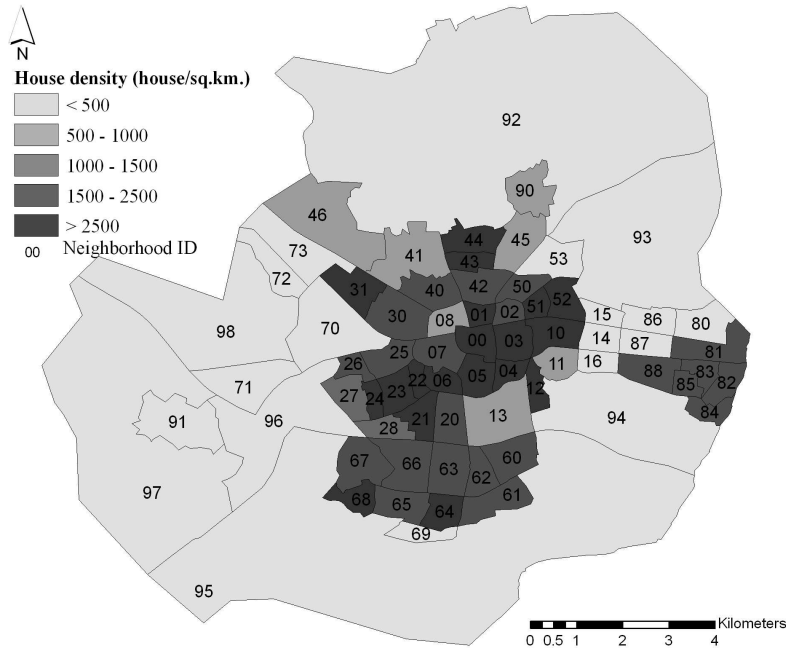


Source: Analysis

Figure 4.1 Population density per square kilometre (2007)

Figure 4.2 represents the house density. It shows that most of the high density of houses also clusters around the city centre. There are 19 out of 70 neighbourhoods with house density greater than 2500. The areas are City, Lasonder/ 't Zeggelt, De Bothoven, Hogeland-Noord, 't Getfert, Veldkamp, Getfert-West, Velve/Lindenhof, Hogeland-Zuid, Boswinkel/de Braker,

Pathmos, Stevenfenne, Stadsveld-Zuid, Twekkelveld, Mekkelholt, Deppenbroek, 'tRibbelt/Ribbelerbrink, Park Stokhorst, Wesselerbrink ZO, and Helmerhoek-Zuid.



Source: Analysis

Figure 4.2 House density per square kilometre (2007)

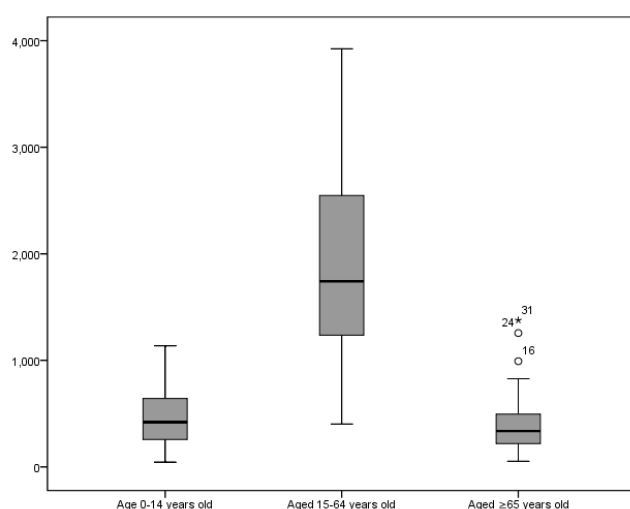


From figure 4.3 shows the dense settlement areas agglomerate at the central area, the southern area and along the main road. The outside areas are the rural settlement with slight scattering built-up areas.

Source: Analysis

Figure 4.3 Built-up areas (2007)

The age composition of population represents the percentage of particular age groups which are age group ≤ 15 -year-old, age group 15-65-year-old and age group ≥ 65 -year-old. Figure 4.4 shows the major group is people with age of 15-65 compared with the percentage of other two groups.



Source: Analysis

Figure 4.4 Age groups (2007)

The study area includes a selection of 52 neighbourhoods (Chapter 1, Figure 1.2) in the Municipality of Enschede, based on population density, house density³ and data availability. These neighbourhoods can be considered as an urban area while the rural areas are scarcely populated and have little human activities (The Dutch Central Bureau of Statistics, 2010). In addition, the neighbourhoods with industrial and university functions are excluded.

4.2. Exploratory data analysis

The exploratory data analysis is statistic tool in order to see the nature of the data. The data exploration is done in finding the pattern of the data to understand the distribution of data which indicate the central tendency and the spreading of the data. First, the central tendency is the location where most of the data are accumulated. This can be represented by the mean, the median or the most frequent observation existed. The exploratory data analysis is done in two different approaches. First, the distribution of data is checked with numerical and graphical summary. The distribution of categorical variables is displayed by graphs with using the counts or percentage of each category. Next, Pearson's correlation coefficient is performed to detect the relationships between variables.

• Numerical and graphical summary

From Table 4.1 and Figure 4.5, the numerical summary of the data and graphical summary are represented. From Table 4.1, it shows the minimum and maximum values, mean, and the standard deviation. Figure 4.5 shows the box plots of the collected data.

³ CBS defines the urbanization in neighbourhood, municipal district or municipality according to their degree of urbanization:

1. very low degree of urbanization: fewer than 500 addresses per square kilometre
2. low degree of urbanization: 500 to 1000 addresses per square kilometre
3. moderate degree of urbanization 1000 to 1500 addresses per square kilometre
4. high degree of urbanization: 1500 to 2500 addresses per square kilometre
5. very high degree of urbanization: 2500 or more addresses per square kilometre

*The number of addresses per square kilometre is an indication of the amount of human activities, living, working, etc.

Descriptive Statistics					
	N	Min.	Max.	Mean	Std. Dev.
	Stat.	Stat.	Stat.	Stat.	Stat.
No. of population	52	499	5716	2788.04	1320.240
Non-Dutch	52	115	3185	993.48	777.555
Aged≥65-year-old	52	53	1377	395.37	272.030
Aged 15-64-year-old	52	402	3924	1921.77	908.593
Aged 5-17-year-old	52	39	1040	407.75	235.983
No. of public library members	52	56	1302	570.71	286.975
No. of youth participation	52	21	547	189.62	118.956
Average living	52	4.2	14.7	9.415	2.6785
No. of houses with owner-occupiers	52	49	1510	608.50	318.111
No. of physical Crime rate	52	34	2375	242.92	325.270
No. of social crime rate	52	22	1278	150.85	181.694
Average income	52	12900.0	27400.0	16501.923	2702.7575
No. of employment	52	41	10189	1022.56	1629.928
No. of unemployment	52	14	569	184.81	136.709
No. of students enrolled schools	52	35	990	394.88	223.252
Valid N (listwise)	52				
Election : Descriptive Statistics					
	N	Min.	Max.	Mean	Std. Dev.
	Stat.	Stat.	Stat.	Stat.	Stat.
No. of population	65	1134	3482	2395.65	459.743
Total calls	65	940	2304	1783.92	280.569
Total Vote	65	779	1973	1376.58	272.341
PvdA party	65	133	641	404.91	93.631
Valid N (listwise)	65				

Table 4.1 Descriptive statistics of the collected parameters

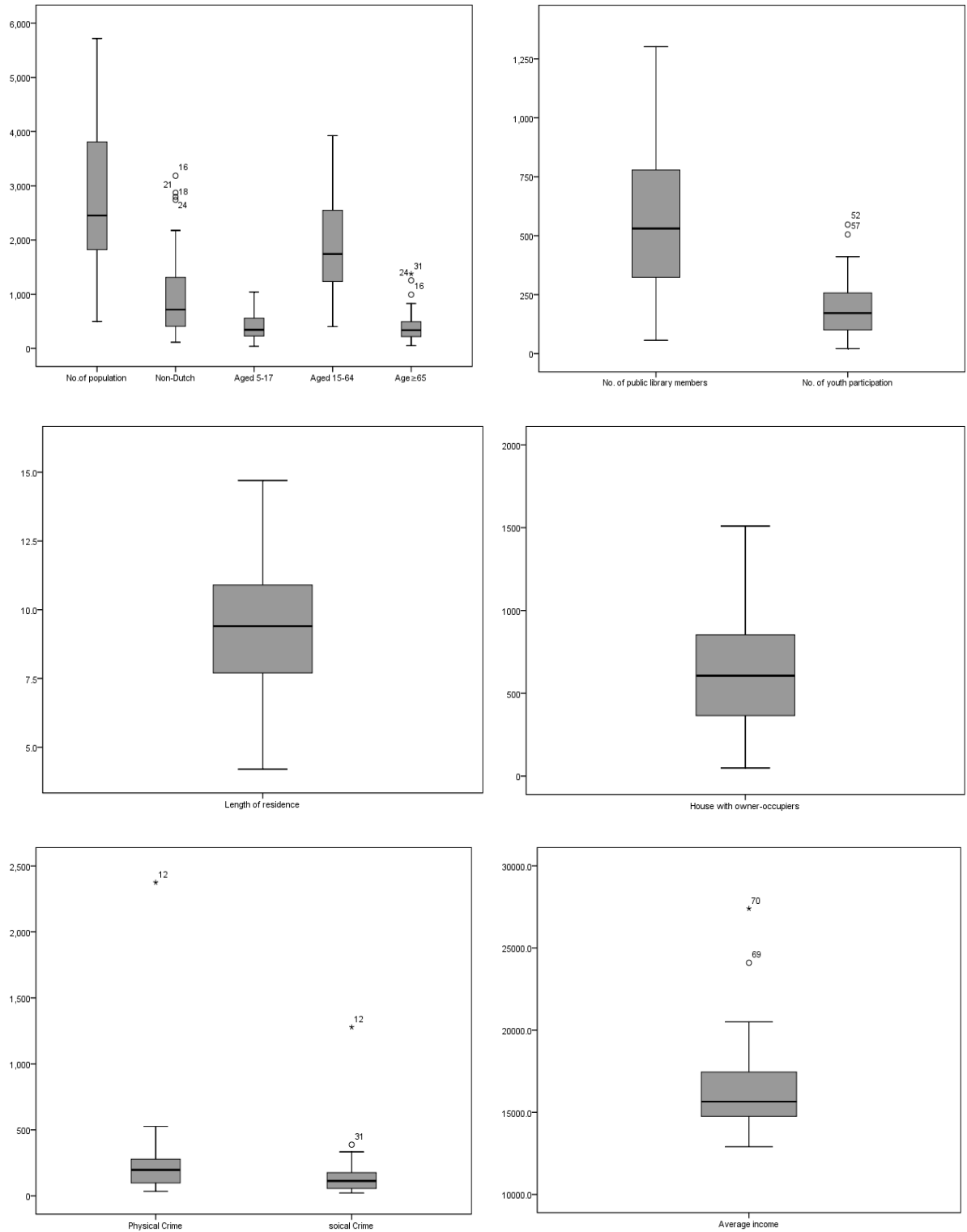


Figure 4.5 Graphical summary of collected data

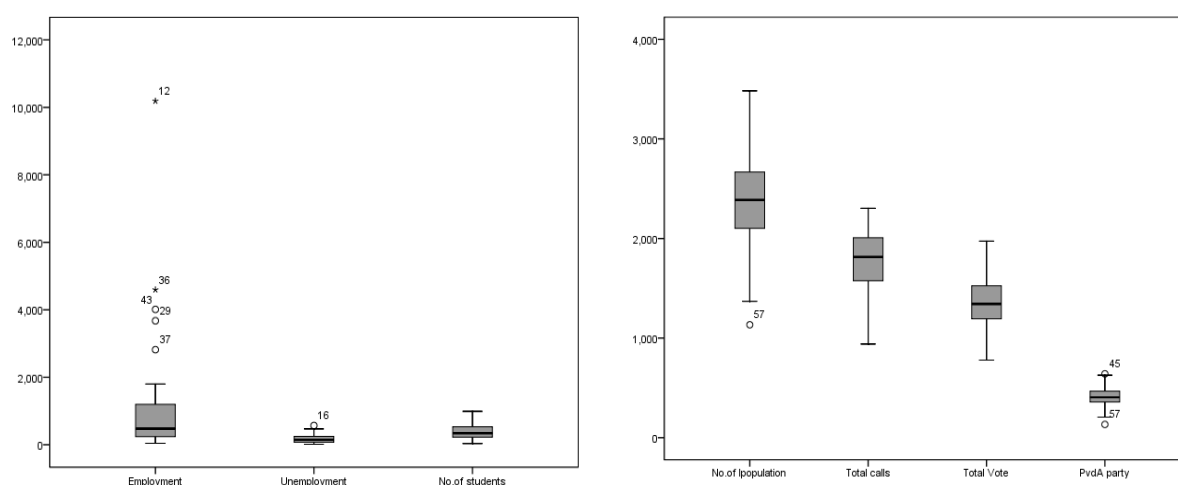


Figure 4.5 Graphical summary of collected data (Cont').

• Reporting in Pearson's correlation coefficient

In order to find a way to measure the strength of the correlation, Pearson's correlation coefficient is used. A correlation is a number between -1 and +1 that measures the degree of association between the variables. Positive values for the correlation imply a positive association while negative values for the correlation imply a negative or inverse association.

Table 4.2 represents the correlations of 10 indicators⁴. In this study, neighborhood 52 was selected to compare the level of social cohesion. The analysis showed a strong correlation between the different indicators. Correlation could be observed between youth participation and public library members. Length of residence was found to be correlated with youth participation and public library members while houses with owner-occupiers were found to be correlated with public library members, youth participation and length of residence. A strong positive correlation could also be observed between people aged more than 65 years and length of residence. Non-Dutch ethnicity has a strong positive correlation between public library members, youth participation, length of residence and also house with owner occupiers. Crime shows a strong correlation with public library members, length of residence and house with owner occupier. Average personal disposal income shows strong positive correlation with public library members, youth participation, length of residence, house with owner occupiers, people aged more than 65 years and non-Dutch ethnicity. Unemployment showed a strong significant relation with public library members, youth participation, house with owner occupiers, non-Dutch ethnicity and average income. Education was found to have a significant strong negative correlation with crime.

⁴ The indicators of electoral participation and party voting are excluded from the composite of index due to the boundary differences and the limitation attached to it.

	Public library members	Youth participation	Length of residence	House with owner- occupier	Aged≥65	Non- Dutch	Crime	Average income	Unem- ployment	Education
Public library members	1									
Youth participation	.586**	1								
Length of residence	.334*	.492**	1							
House with owner-occupier	.746**	.730**	.515**	1						
Aged≥65	.154	.234	.365**	-.077	1					
Non-Dutch	.500**	.825**	.436**	.756**	-.062	1				
Crime	.343*	.124	.386**	.440**	.070	.079	1			
Average income	.756**	.814**	.363**	.753**	.280*	.672**	.201	1		
Unemployment	.676**	.718**	.269	.823**	-.042	.715**	.187	.696**	1	
Education	-.095	.009	-.204	-.195	-.064	-.063	-.515**	-.061	.073	1

** . Correlation is significant at the 0.01 level (2-tailed); * . Correlation is significant at the 0.05 level (2-tailed).

Table 4.2 Correlations of 10 indicators

4.3. Composition of the measure of social cohesion

In this thesis, social cohesion is represented in five dimensions: social networks, place attachment, common values, social order and wealth disparities. These dimensions and indicators used are the reflection of the local context of social cohesion phenomena into the operational measurement. The consideration of the selection of the dimensions and indicators was taken based on the agreement on literature review. As well, the consideration upon the selection of the dimensions and indicators was based on the data availability.

Next section is about the discussion of social cohesion dimensions and the selected indicators (also see Appendix C). Considering the benefit and cost criteria, the indicators of public library member, youth participation, electoral participation, average length, house with owner-occupier, aged≥65, party voting, income, and education are considered as benefit criteria. If the value is higher than a mean z-score, it is classified as high social cohesion condition (dark colour) while the indicators of non-Dutch ethnicity, crime, and unemployment is considered as the cost. If value is lower than a mean z-score, it is classified as high social cohesion condition (dark colour).

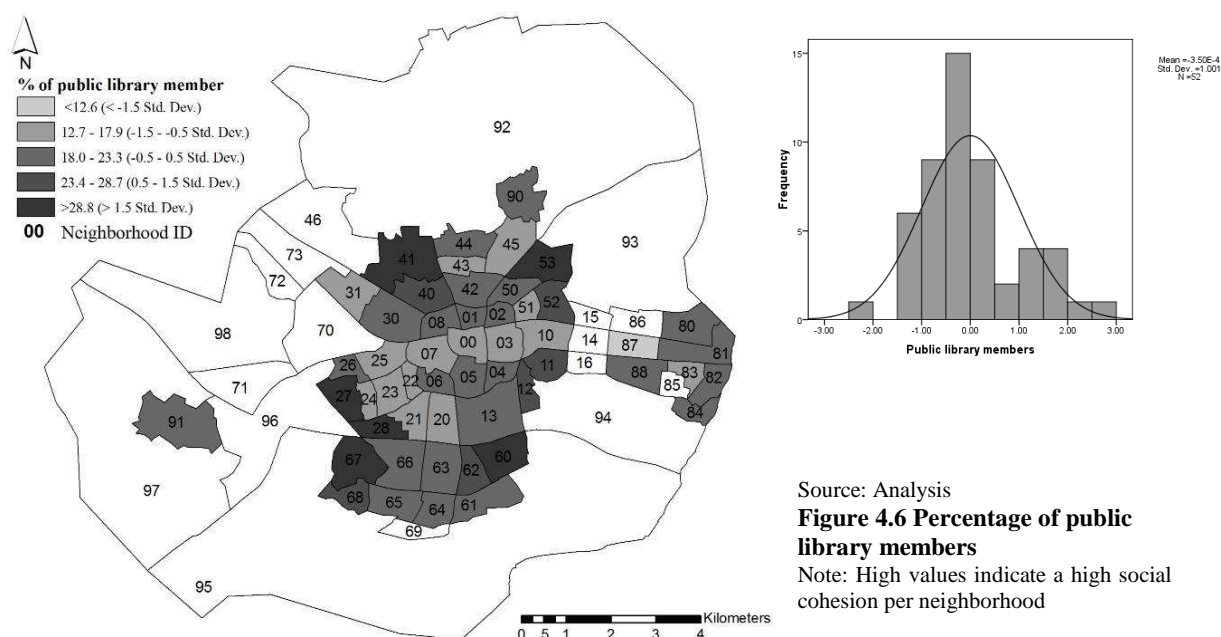
4.3.1. Social networks dimension

Social networks dimension refers to the contacts or the ties between persons within society, or within a city or a neighbourhood. This dimension consists of three indicators which are public library members, youth participation, and electoral participation. This dimension is measured

using three indicators which refer to the participation in the society. Based on the secondary data, the difficulty in finding the most appropriate indicators to represent the dimension of social networks in neighbourhoods was main reason to select these indicators. It was expected to the neighbourhoods with high level of social networks.

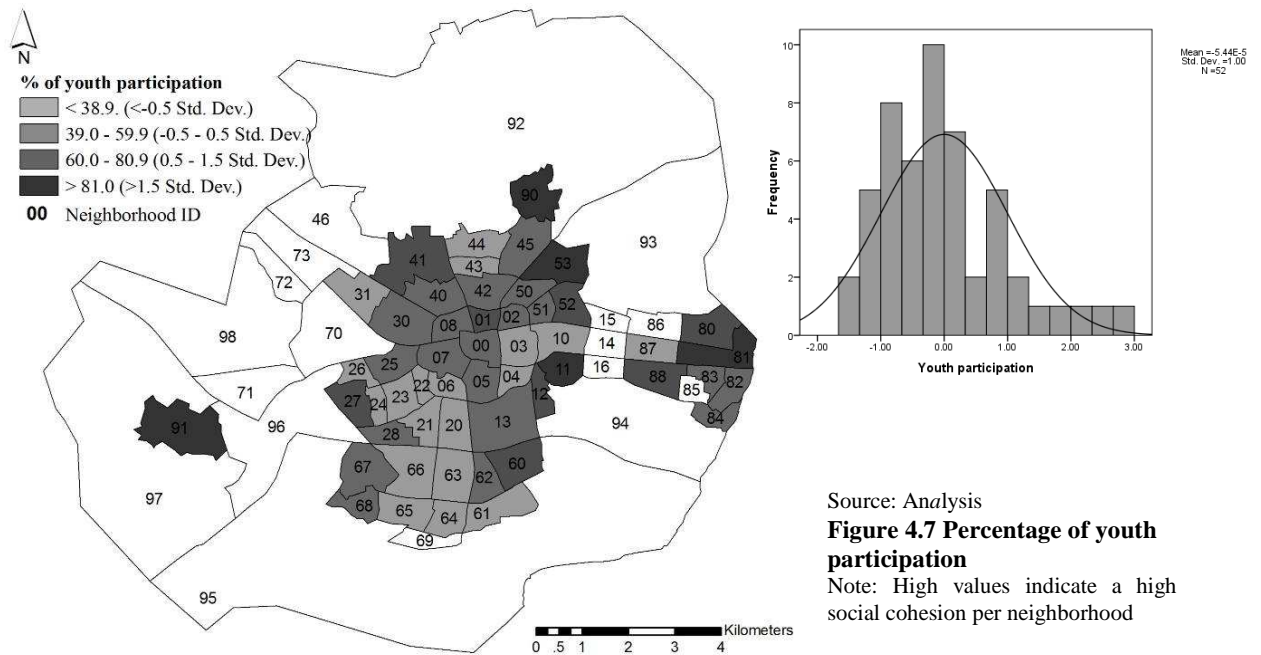
4.3.1.1. Public library members

The indicator presumes that social networks may take the form of membership of formal or organized associations such as public library. Figure 4.6 shows the percentage of public library members in each neighbourhood. There are six neighbourhoods have the highest percentage of public library members which are Bolhaar (35.6%), 't Zwering (33.9%), Ruwenbos (30.3%), 't Stokhorst (29.8%), Helmerhoek-Noord (29.7%), and Stroinkslanden NO (29%), respectively. While, Dlophia has the low percentage with 9.5%. (see Figure 1.2)



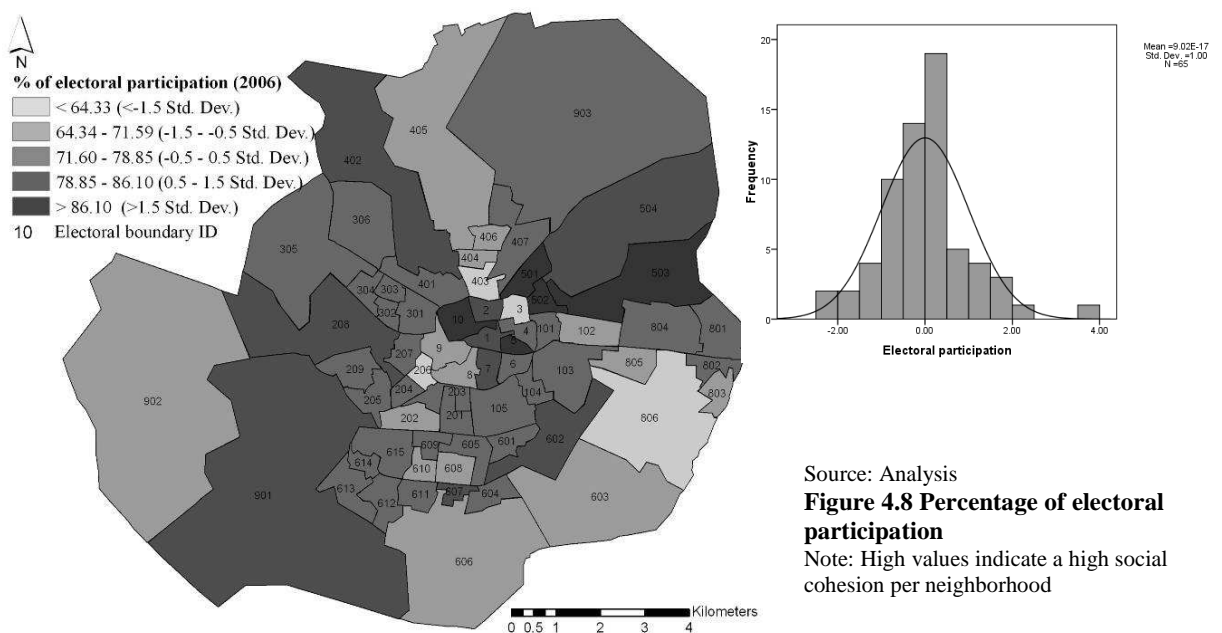
4.3.1.2. Youth participation

The participation or involvement in association, such as sport club, will be presumed to be more cohesive by youth group with aged 5-17 years old. It assumes that youth person is able to subscribe to more than one association. Figure 4.7 shows the percentage of youth participation in each neighbourhood in Enschede. There are five with high percentage of youth participation more than 81%. They are 't Stokhorst, Dorp Lonneker, Bentveld/Bultserve Dorp Boekelo and Wooldrik. 19 out of 52 neighbourhood with low percentage in this indicator, less than 38.9.



4.3.1.3. Electoral participation

This indicator refers that people are politically active and voting is very visible way of politically action. It empowers people by allowing them to influence decision and foster a sense of belonging to their place. Figure 4.8 represents the percentage of electoral participation in year 2006. There are five electoral boundaries with high percentage of electoral participation of people who have county rights to vote. They are electoral boundaries with ID 5, 10, 501, 502, and 503.

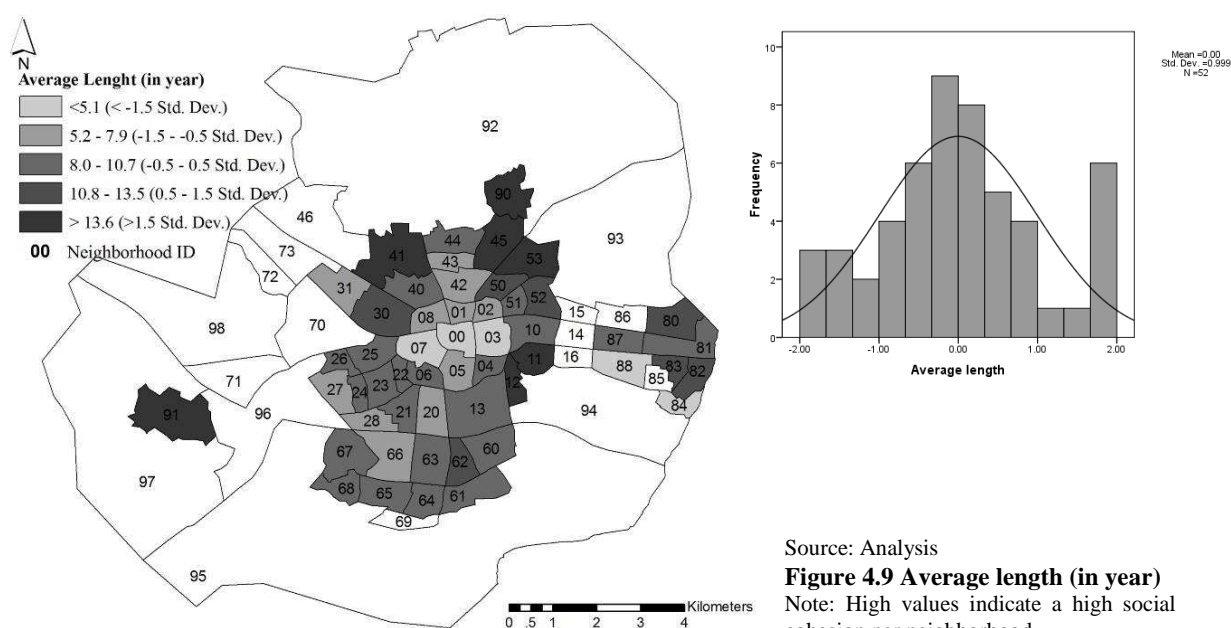


4.3.2. Place attachment dimension

With respect of place attachment dimension, it refers the idea that not only the residents have ties with other people, but also with their living environment. This is because place attachment leads to a feeling of security and self-image, including a bond between people, cultures and experiences (Dekker, 2006). Place attachment still serves a sense of security, a symbolic bond to people, identity, experience, idea and culture so that it represents that people feel belonging to a place and to people. This dimension consists of three indicators. They are length of residence, houses with owner-occupiers, and people aged ≥ 65 year-old.

4.3.2.1. Length of residence

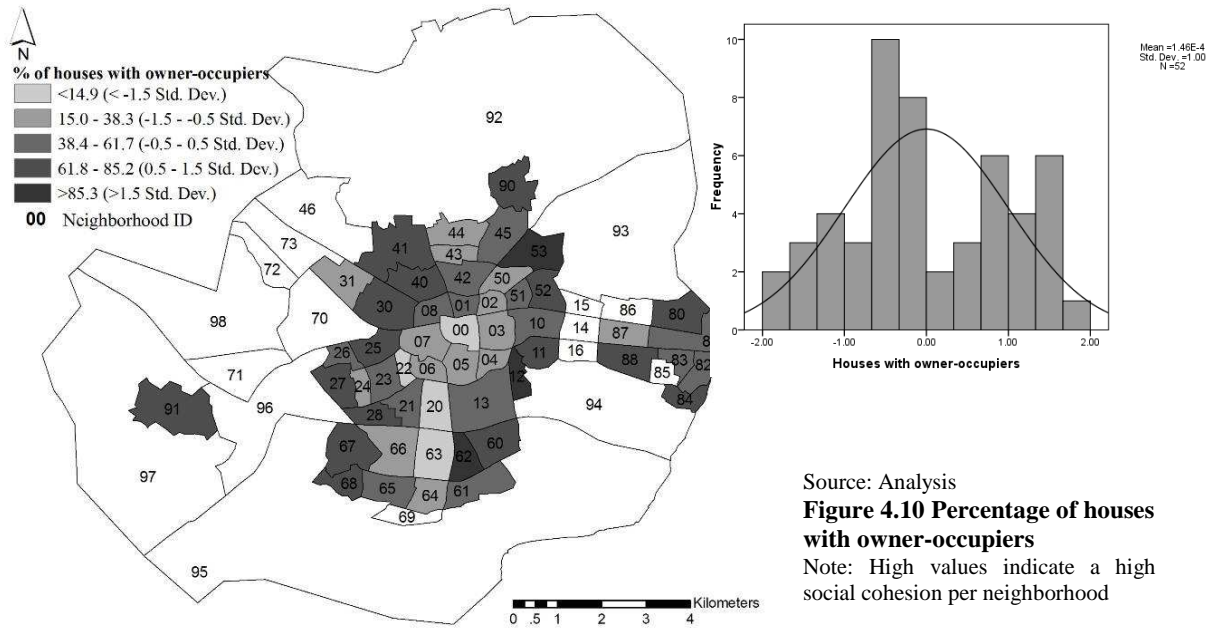
Length of residence refers to a temporal process that influences attitudes and behaviour toward the neighbour. It has directly effects on local friendships, attachment to community, and participation in local activities. Figure 4.9 represents the average length (in year). There are six neighbourhoods with high average length which are Dorp Boekelo (14.7), Voortman/Amelink (14.2), Bolhaar (14.2), Dorp Lonneker (13.9), Wooldrik (13.9), and 't Stokhorst (13.9). City, Oikos, Eekmaat west and Horstlanden/Stads are the neighbourhoods with low average length of resident, less than 5.4 years.



4.3.2.2. Houses with owner-occupiers

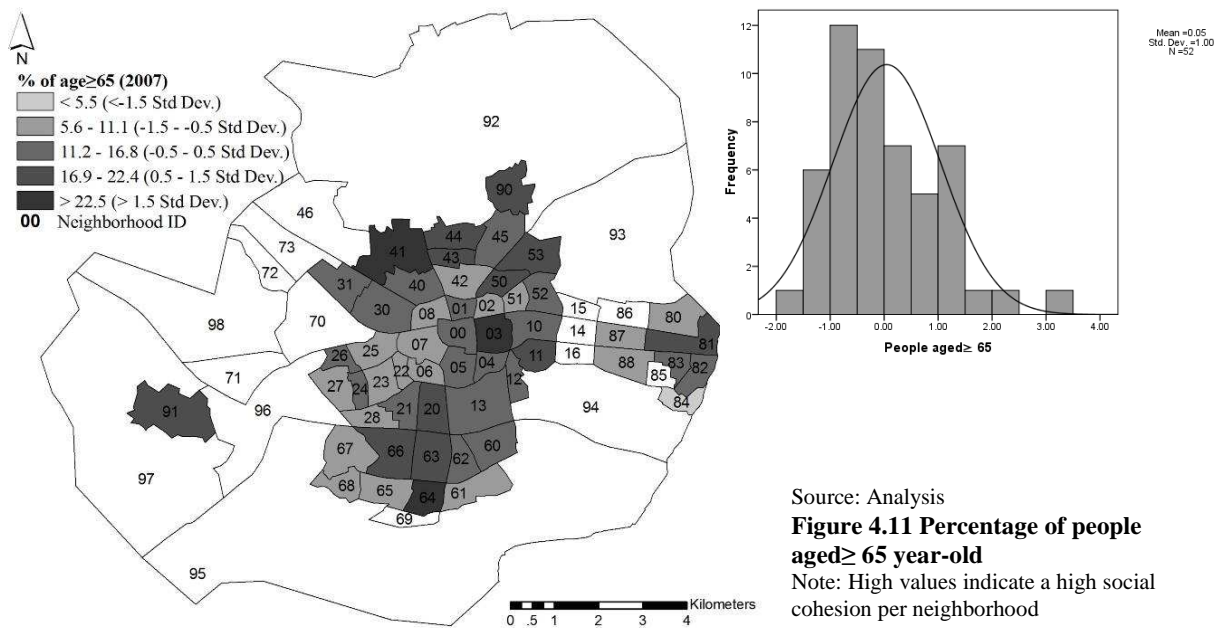
The indicator of houses with owner-occupier represents an investment that predict both neighbourhood quality and place attachment (Taylor, 1996). It implies that people become devoted to the neighbourhood due to they stay longer and invest more money in housing. Then, they feel belong to a certain group, neighbourhood and lifestyle. People are aware of and attached to the place and invest in their property. Figure 4.10 shows the percentage of houses with owner-occupiers. It was observed that 't Stokhorst (96.2%) and Stroinkslanden NW (86.8%) have high percentage. There are four neighbourhoods with low percentage of

houses with owner-occupiers, less than 14.9%. They are City, Cromhoffsbleek/ Kotman, Pathmos, and Wesselerbrink NO, respectively.



4.3.2.3. Age ≥ 65 years old

This indicator refers to the elderly (aged ≥ 65) are more likely to have a strong neighbourhood attachment than are younger people. Figure 4.11 shows the percentage of people aged ≥ 65 year-old. It was observed that there are three neighbourhoods with high percentage of people aged ≥ 65 year-old. They are Bolhaar (31.7%), Wesselerbrink ZO (27.3%) and De Bothoven, (24.1%). Oikos, with 2.5%, is the only one neighbourhood with low percentage of people aged ≥ 65 year-old.

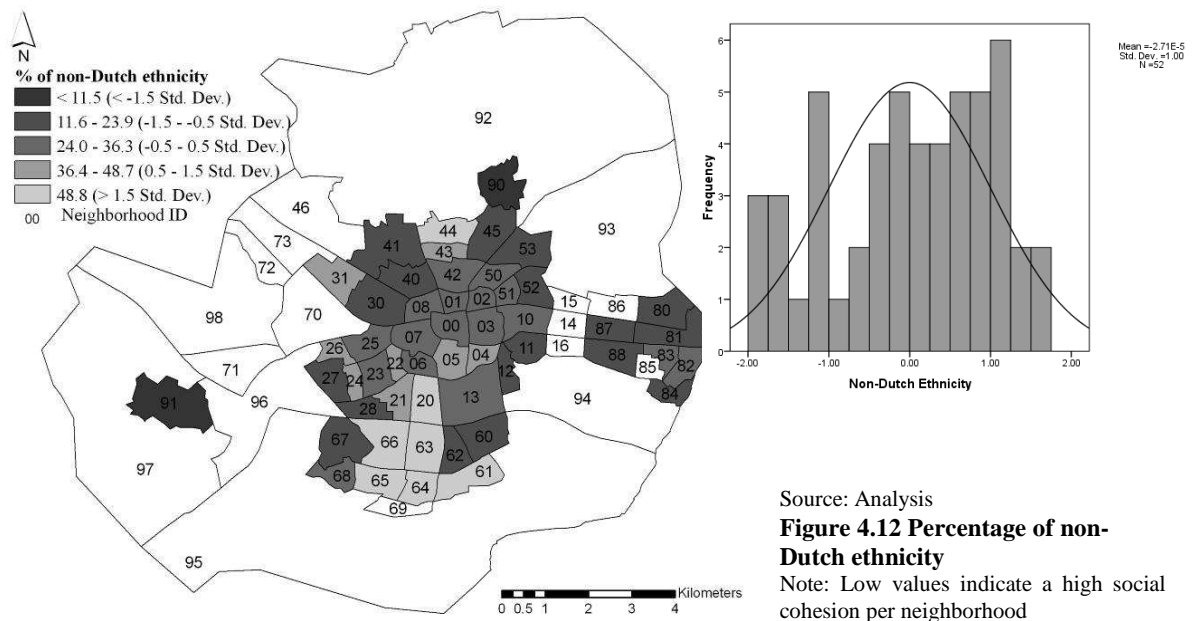


4.3.3. Common values dimension

With respect to the common values dimension, it refers to a group of people inclines to have a common set of values, goals and an idea about social order. To have a common value can be seen as one of the prerequisites of social cohesion which leads to understanding and respect (Dekker, 2006). The indicators of Non-Dutch ethnicity and party voting are represented.

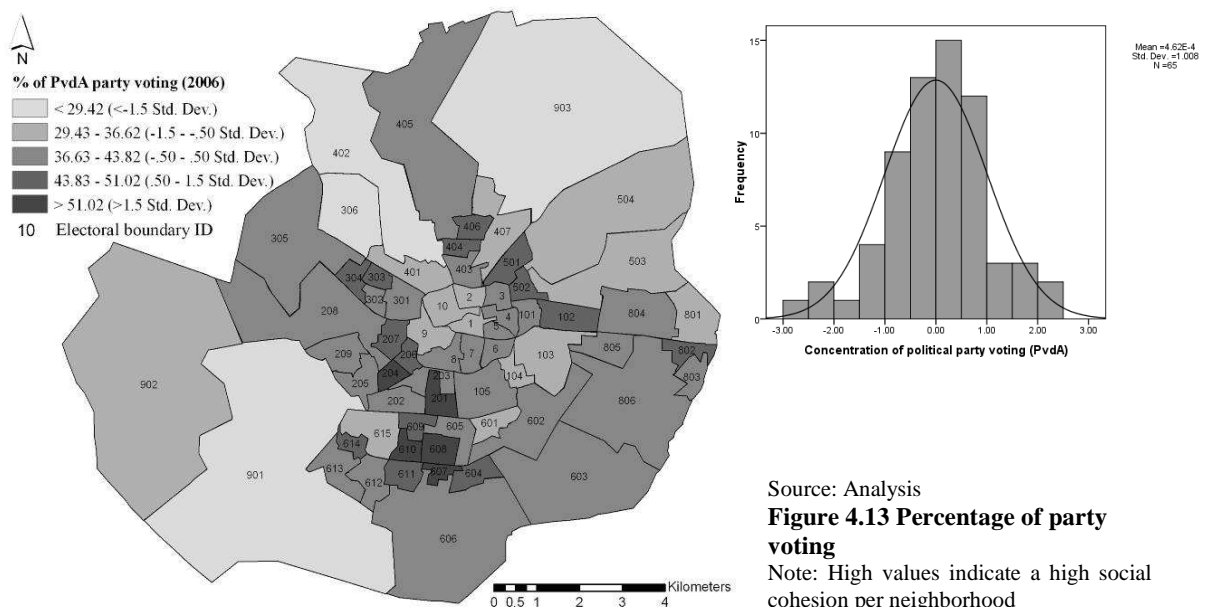
4.3.3.1. Non-Dutch ethnicity

Ethnicity is associated with common values. Basically, it is useful to measure the concentration of minority group such as Moroccan. However, it is assumed that native Dutch people, as homogeneous group, are strongly oriented to a set of common values and social behaviour. This indicator refers if people with the same race, religion and national origin tend to be part of the same network, have a common set of values and goals as well as a general idea about social order. Figure 4.12 shows the percentage of non-Dutch ethnicity. There are six neighbourhoods with high percentage. They are Wesselerbrink ZO (52.4%), Wesselerbrink ZW (52.4%), Cromhoffsbleek/ kotman (52.2%), Wesselerbrink NW (51.7%), Deppenbroek (51.1%) and Stroinkslanden Zuid (49%). Dorp Boekelo (9.2%) and Dorp Lonneker (9.3%) have share with low percentage of non-Dutch ethnicity.



4.3.3.2. Party voting

It implies that high concentration in one particular party may indicate to a same idea of people in neighbourhood. A particular party was selected due to high score voting. Figure 4.13 represented the concentration of political voting. The high percentage of this party was found in the electoral boundaries ID 201, 204, 607, 608, and 610. While the electoral boundaries ID 306, 901, 903, and 402 had the low percentage of party voting.

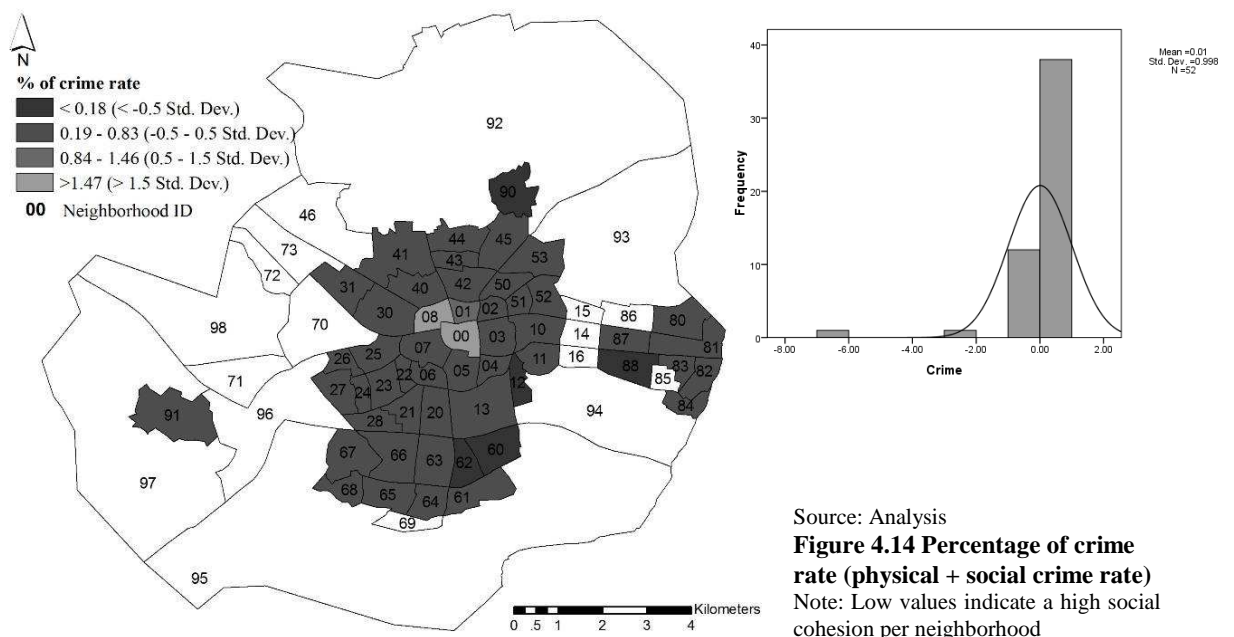


4.3.4. Social order dimension

With respect of social order dimension, it is based on an absence of general conflicts between groups and of any serious challenge to the existing order and system (Kearns & Forrest, 2000). Crime rate is represented as the indicator of social order dimension.

4.3.4.1. Crime

It refers to high number of deviant behaviour and crime will present when society becomes disorder. The less number of crime rate is benefit. The crime indicator provides the rate per neighbourhood. The physical and social crimes are about violence, domestic housebreaking, vandalism, drug offences and breaking the environmental rules such as noises, improper dumping of waste, etc. Figure 4.14 shows the percentage of crime rate. Five neighbourhoods have the low percentage of crime rate, less than 0.18. They are Dorp Lonneker, Eekmaat west, Stroinkslanden NO, Hogeland-Zuid, and Stroinkslanden NW. While, City and Boddenkamp have a share of the high percentage of crime rate.

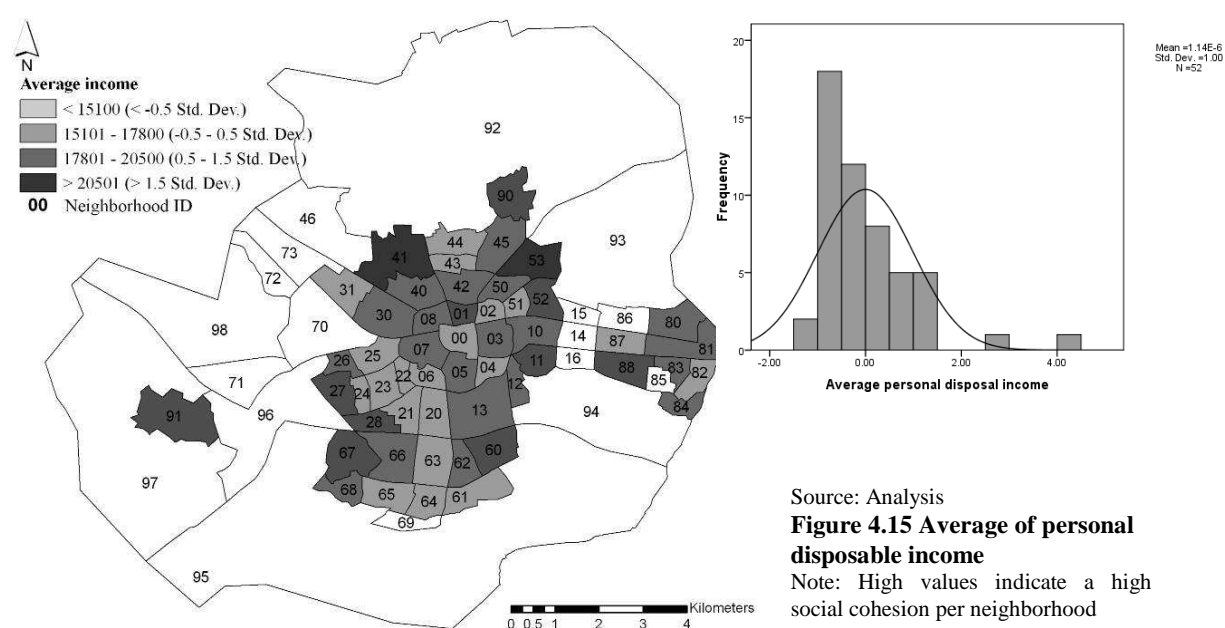


4.3.5. Wealth disparities dimension

The last dimension, wealth disparities is based on equal access to services and welfare benefits, the redistribution of opportunities. There are three indicators under this dimension. They are the average of personal disposable income, unemployment and education.

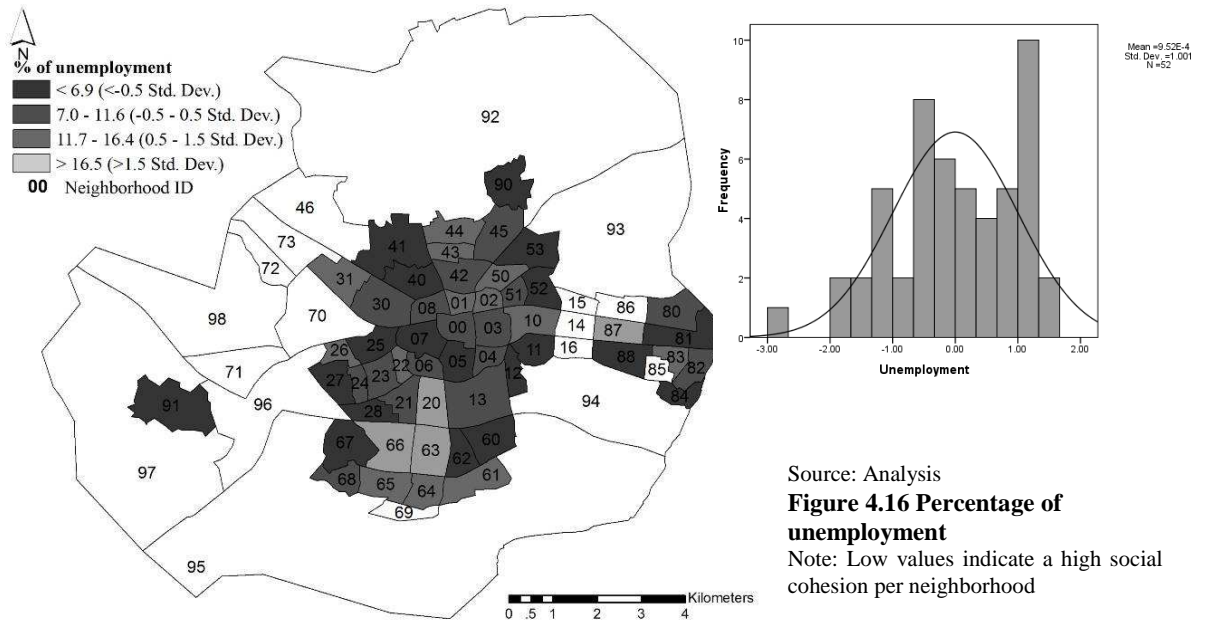
4.3.5.1. Income

This indicator refers to the cleavage between habitants who have and those who have not. The average disposable income per person with income in the 52 weeks previous years. The disposable income is the total income of an individual, minus insurance premiums and taxes. Also it assumes that the deprived neighbourhood is with low average personal income per year (below 15100 euros). Figure 4.15 shows the average of personal disposable income. It was found that 20 out of 52 neighbourhood had an average of personal disposable income below 15100 Euros, whereas 't Stokhorst and Bolhaar had a share of the high income.



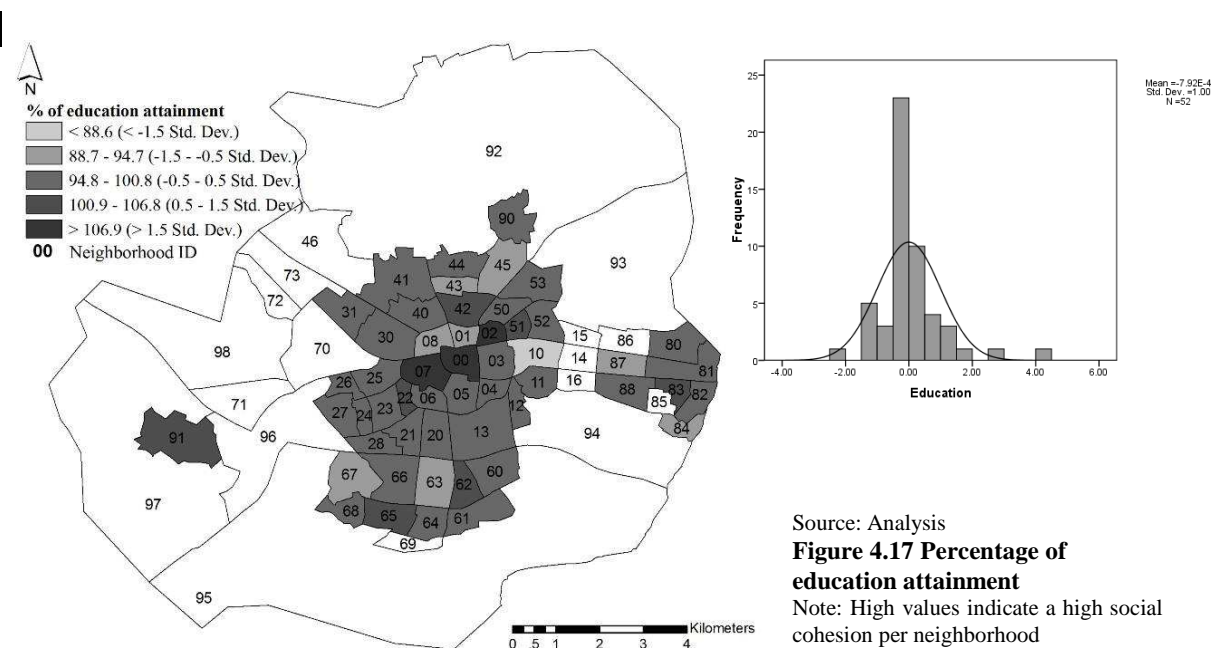
4.3.5.2. Unemployment

Unemployment refers to the risk of social exclusion and poverty due to the difficulty to obtain the resources necessary to acquire goods and services. Figure 4.16 shows the percentage of unemployment. There are four neighbourhoods with high percentage of unemployment, greater than 16.5%. They are Dolphia, Wesselerbrink NO, Cromhoffsbleek/Kotman, and Wesselerbrink NW. 19 out of 52 have a share of low percentage of unemployment, less than 6.9.



4.3.5.3. Education

With respect of education, it implies that education is an effective tool in combating inequalities. The lack of education is a very serious obstacle to individuals' productive integration into the labour market. Figure 4.17 shows the percentage of education attainment of people with age of 5-17 years old. City, Laares and Horstlanden/Stads had with the high percentage of people with age of 5-17 years old attending the schools. Only Velve/Lindenhof had a share of the low percentage of people enrolled the schools.



4.4. Index of social cohesion

The result from the analysis (Table 4.3) indicates that the dimension of social networks was significantly correlated with place attachment, common values, and wealth disparities. Place attachment was significantly correlated with social networks while common values showed significant positive correlation with social networks, and place attachment. Moreover it was also observed that social order has a strong correlation with place attachment while wealth disparities showed significant positive correlation with social networks, place attachment and common values.

	Social networks	Place attachment	Common values	Social order	Wealth disparities
Social networks	1				
Place attachment	.704**	1			
Common values	.744**	.527**	1		
Social order	.263	.418**	.079	1	
Wealth disparities	.769**	.440**	.630**	-.060	1

**. Correlation is significant at the 0.01 level (2-tailed).

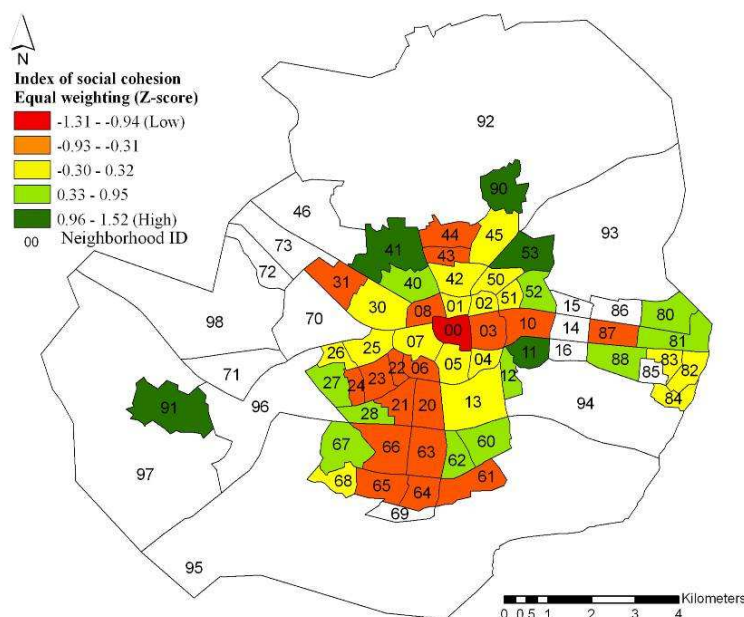
Table 4.3 Correlations of dimensions of social networks, place attachment, common values, social order, and wealth disparities

To construct an index of social cohesion, each indicator is standardized by Z-score technique and the weighted summation method of multicriteria analysis is performed (Table 4.4). Each indicator is assigned the equal weight in order to indicate the importance of each component. It is suggested to assign equal weight (20%) to social networks, place attachment, common value, social order, and wealth disparities.

Dimensions	Cost/Benefit	Weight level 1	Weight level 2
1.Social networks		0.20	
Public library member	Benefit		0.50
Youth participation	Benefit		0.50
2.Place attachment		0.20	
Average length	Benefit		0.33
House with owner-occupier	Benefit		0.33
Aged ≥ 65	Benefit		0.33
3.Common value		0.20	
Non-Dutch ethnicity	Cost		1.00
4.Social order		0.20	
Crime rate	Cost		1.00
5.Wealth disparities		0.20	
Average disposable personal income	Benefit		0.33
Unemployment	Cost		0.33
Education	Benefit		0.33

Table 4.4 Equal weight assignments for social cohesion

The index of social cohesion describes the neighbourhoods after giving the weights and combining the five dimensions of social networks, place attachment, common value, social order and wealth disparities. The lowest value below the mean value, the lowest cohesive neighbourhoods are. Figure 4.18 and Appendix F show Index of social cohesion and ranking of neighbourhoods by z-score technique. The result shows the lowest social cohesion is City. 't Stokhorst, Bolhaar, Dorp Lonnerker, Dorp Boekelo and Wooldrik have a share of the highest social cohesion score.



Source: Analysis
Figure 4.18 Index of social cohesion (equal weighting)

In addition, the weighting method can apply an expert opinion to obtain the assessment. According to the staff from I&O Research's suggestion, the weight should be assigned social networks 35%, place attachment 35%, common values 10%, social order 10% and wealth disparities 10% (Table 4.5). From Table 4.6, it shows the weight is assigned according to the manager of central district. It is suggested to assign social networks 10%, place attachment 40%, common values 20%, social order 10% and wealth disparities 20%.

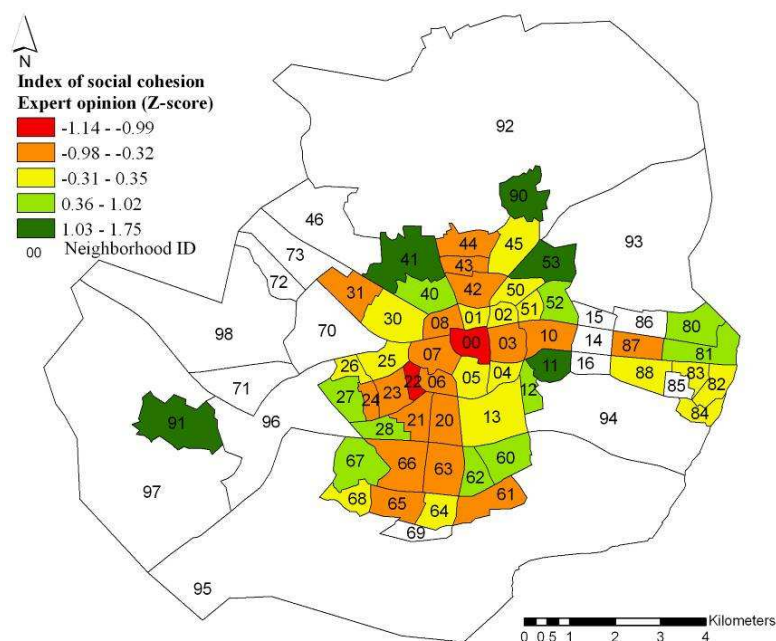
Dimensions	Cost/Benefit	Weight level 1	Weight level 2
1.Social networks		0.35	
Public library member	Benefit		0.50
Youth participation	Benefit		0.50
2.Place attachment		0.35	
Average length	Benefit		0.33
House with owner-occupier	Benefit		0.33
Aged ≥ 65	Benefit		0.33
3.Common values		0.10	
Non-Dutch ethnicity	Cost		1.00
4.Social order		0.10	
Crime rate	Cost		1.00
5.Wealth disparities		0.10	
Average disposable personal income	Benefit		0.33
Unemployment	Cost		0.33
Education	Benefit		0.33

Table 4.5 Expert opinion weight assignments for social cohesion (1)

Dimensions	Cost/Benefit	Weight level 1	Weight level 2
1.Social networks		0.10	
Public library member	Benefit		0.50
Youth participation	Benefit		0.50
2.Place attachment		0.40	
Average length	Benefit		0.33
House with owner-occupier	Benefit		0.33
Aged ≥ 65	Benefit		0.33
3.Common value		0.20	
Non-Dutch ethnicity	Cost		1.00
4.Social order		0.10	
Crime rate	Cost		1.00
5.Wealth disparities		0.20	
Average disposable personal income	Benefit		0.33
Unemployment	Cost		0.33
Education	Benefit		0.33

Table 4.6 Expert opinion weight assignments for social cohesion (2)

Figure 4.19 and Appendix E show Index of social cohesion and ranking of neighbourhoods by expert opinion weighting method by giving an importance to social networks and place attachment. The result shows the lowest social cohesion are City and Pathmos. 't Stokhorst, Bolhaar, Dorp Lonnerker, Dorp Boekelo and Wooldrik have a share of the highest social cohesion score.

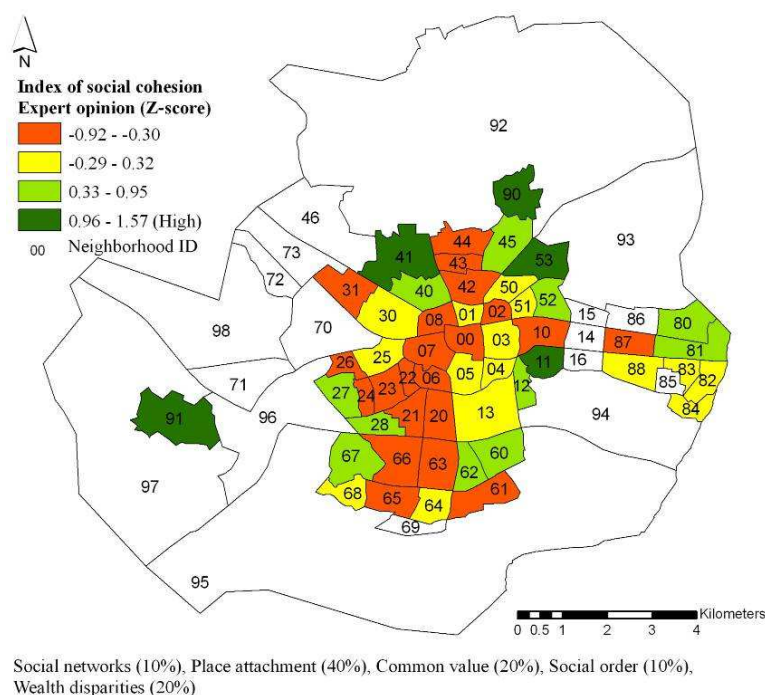


Social networks (35%), Place attachment (35%), Common value (10%), Social order (10%), Wealth disparities (10%)

Source: Analysis

Figure 4.19 Index of social cohesion (expert opinion weighting : 1)

Figure 4.20 and Appendix F show Index of social cohesion and ranking of neighbourhoods by expert opinion weighting method by giving an importance to the dimension of place attachment 40%. The classifications of level of social cohesion can be derived only four classes due to the standard deviation. This index represents the lowest score of social cohesion with -0.92 to -0.30. The result shows 21 out of 52 neighbourhoods have a share of the lowest social cohesion. 't Stokhorst, Bolhaar, Dorp Lonnerker, Dorp Boekelo and Wooldrik have a share of the highest social cohesion score.



Source: Analysis
Figure 4.20 Index of social cohesion (expert opinion weighting : 2)

4.5. Comparison between horizontal and vertical aspects

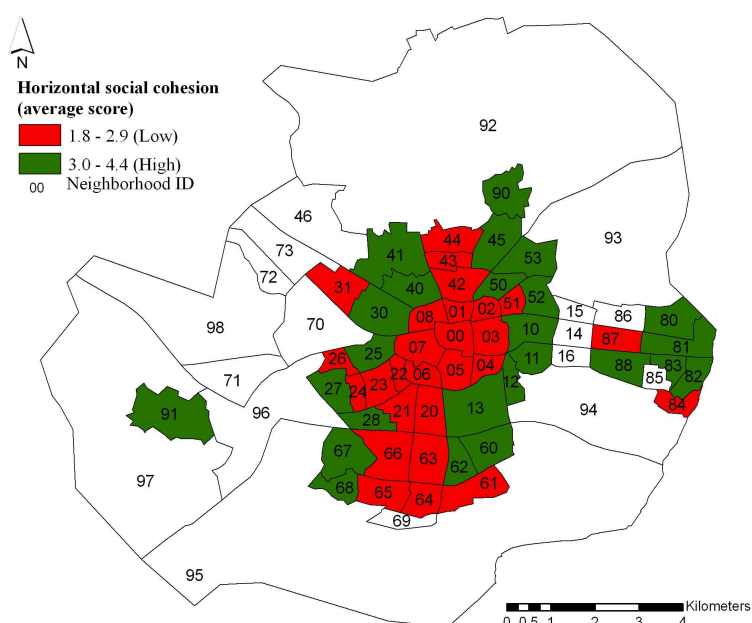
The condition of social cohesion in each neighbourhood is identified as a state of strong cohesion within the society at large, strong cohesion within society but not linked to outside world, individualistic neighbourhood with linkage to the larger society and excluded neighbourhood with excluded people based on the score systems. The method is to reduce the value of indicators into a small range of score, that is 1-5 (low-high) and combine the scores across all indicators according to horizontal aspects and vertical aspects of social cohesion. The score is divided by the number of neighbourhoods in order to find out the average score. The average score of horizontal aspects and vertical aspects, that is 3.0, is applied to differentiate between good and bad condition. According to Table 4.7, if both the horizontal and vertical conditions are high then there is strong social cohesion within and to the society at large, otherwise, if both are low then there is exclusion in neighbourhood with excluded people. If the horizontal condition is high while the vertical condition is low then there is strong cohesion within but not link to outside world. If the horizontal condition is low while the vertical condition is high then there is individualistic neighbourhood with linkage to the larger society.

	Horizontal condition	
	High	Low
Vertical condition High	Strong cohesion within and to the society at large	Individualistic neighbourhood with linkage to the larger society
Low	Strong cohesion within but not link to outside world	Excluded neighbourhoods with excluded people

Table 4.7 State of social cohesion

According to Table 3.2, it shows that the indicators can be justified as horizontal or vertical aspects. In order to compare the state of social cohesion, each indicator such as length of residence, house with owner-occupiers, people aged more than 65, non-Dutch ethnicity, and crime are identified as horizontal aspect. Public library members, youth participation, average personal disposal income, unemployment, and education are identified as vertical aspect.

Figure 4.21 shows the horizontal cohesion aspect by applying the average score of 3. Red color represents the low horizontal aspect, whereas green colour shows the high one. It was observed that there are 27 neighbourhoods, located at the centre and the southern part of Enschede, with the low horizontal aspect.



Source: Analysis
Figure 4.21 Horizontal social cohesion

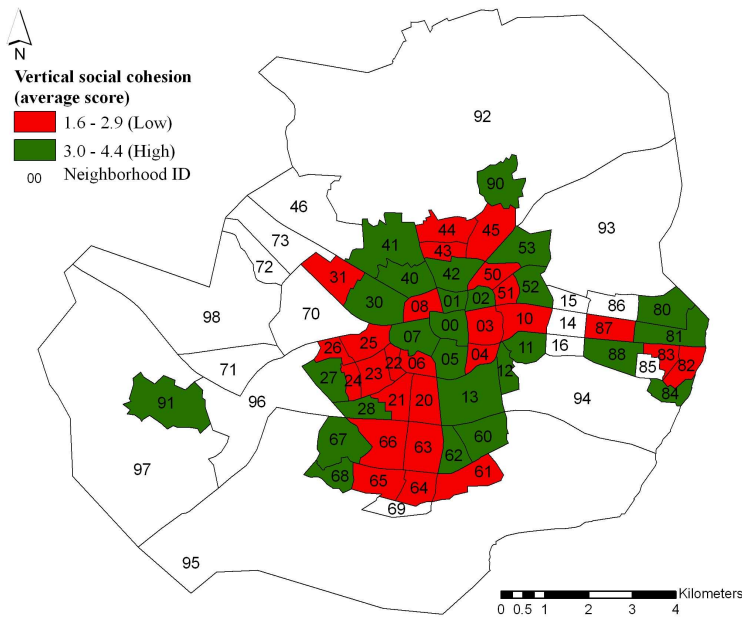
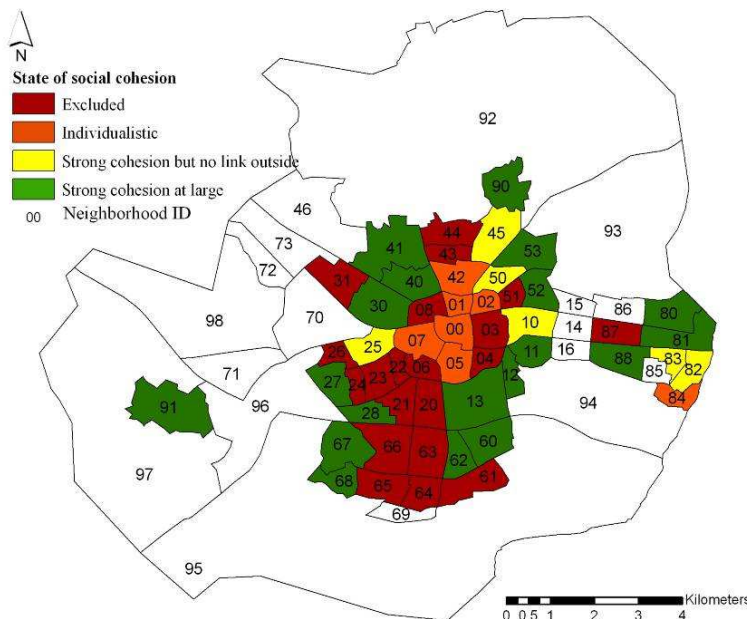


Figure 4.22 shows the vertical social cohesion. It was found that 26 neighbourhoods have a share of the low vertical aspect.

Source: Analysis

Figure 4.22 Vertical social cohesion

Figure 4.23 shows the state of social cohesion. With the high horizontal condition and high vertical condition, there is a strong cohesion at large in 19 neighbourhoods. With the high horizontal condition and low vertical condition, there is a strong cohesion but not link to outside in six neighbourhoods. There are seven neighbourhoods with the condition of individualistic. Both horizontal and vertical conditions are low in 20 neighbourhoods.



Source: Analysis

Figure 4.23 State of social cohesion

4.6. Conclusion

The dimensions of social cohesion and indicators were analyzed by utilizing the z-score in order to divide high and low social cohesion. Each indicator was justified in terms of horizontal and vertical social cohesion and then the state of social cohesion were analyzed by summary score system. 52 neighbourhood areas were categorized as strong social cohesion within and to the society at large, individual neighbourhood with linkages to larger societies, strong cohesion within but not linked to the outside world, and excluded neighbourhood with excluded people.

5. Discussion

This chapter deals with the results of this study are discussed in three main sections. In the first section, it is about the results of social cohesion elements. In the second section, the approach to measure social cohesion is discussed. The dimensions, the index of social cohesion are also discussed. Lastly, the possible policy implications that could be developed as a follow of the improved understanding of social cohesion are discussed. In addition, the role of policies should be addressed.

5.1. Social cohesion elements

Many studies have already paid attention to social cohesion at the neighbourhood level. Social cohesion can be seen as the glue keeping the members of a social system together. In the literature, there are various dimensions that relate the individual to a wider society. In this study, five dimensions (social networks, place attachment, common value, social order, and wealth disparities) and 12 indicators are considered and discussed below.

5.1.1. Social cohesion definition

As mentioned in section 3.2, to develop the indicator should clarify the concept and the policy context in terms of social cohesion. This is the first step of methodological framework of indicator (Wong, 2006). In addition, it is also suggested to verify the problem in the neighbourhood area by interviewing and discussing with the residents and policymakers to simplify the basic concept. This is because “it is no easy task to find a consensual or a precise definition of many social concepts. (Wong, 2006, p. 109).” “More importantly, there is a fundamental need to clarify and delimit the meaning of the concept being measured to allow a common understanding of what is exactly the subject of measure (Wong, 2006, p. 109).”

In the context of Enschede, the municipality should develop the definition of social cohesion in order to understand its concept in common. It should refer to participation and linking of people to the society. In order to define social cohesion, it should identify the problem occurring in the area. The definition should tell about the important components. “A good social cohesion should not be too distant from its ordinary meaning (Chan, et al., 2006, p. 281).”

5.1.2. Social cohesion dimensions and indicators

According to Kearns and Forrest (2000), social cohesion consists of sense of belonging, social networks, common norms, social order, and reduction of wealth disparities. “These dimensions are interlinked in that they have effects upon one another (Kearns & Forrest, 2000, p. 997)”.

In this study, an attempt was made to measure social cohesion through literature review and statistical based approaches at the neighbourhood level. Literature review has helped in the selection of dimensions and indicators which in turn helped to reflect the local context of social cohesion phenomena in operational measurement.

5.1.2.1. Social networks

For instance, with respect of the dimension of social network, it is based on a degree of social interaction within communities and families (Kearns and Forrest, 2000 quoted by Dekker, 2005), it refers to the ties between persons within a neighbourhood. The indicators of public library members and youth participation were weak, with respect of horizontal, to reflect the interaction between people in the society, but are good for measuring social cohesion with respect of vertical in order to see how people link themselves to the outside society (Fransen, A., personal communication, January 21, 2010 and Bootsma, A and Wichern, M., personal communication, January 22, 2010). The indicators of public library members and youth participation do not represent social cohesion itself. The results stated that six neighbourhoods have the highest number of members in public library while one neighbourhood has the lowest percentage of members. The reason is about an economic status. The neighbourhoods with the high percentage of participation interlink with high income level and people are employed so that they are able to afford to be in the membership (Bootsma, A and Wichern, M., personal communication, January 22, 2010). The characteristics of people affect participation. "People with a low socioeconomic status (income, work, education) are less likely to participate and also get less access to institutions and participation activities (Dekker, 2006, p. 86)." People with a low socioeconomic status have difficulty to enter the network.

Strong and active youth participation within the age group of 5 – 17 years old was also observed among the neighbourhoods but out of the 52 neighbourhoods, 19 neighbourhoods show poor youth participation. This may be due to lack of exposure of the youth to different youth organisation or lack of such facilities in those neighbourhoods. Some studies show that the neighbourhood characteristics such as rate of unemployment, home ownership, social disorder, lack of safety, education, poverty affect the youth participation (Cradock, Kawachi, Colditz, Gortmaker, & Buka, 2009). Efforts should be made to encourage youth participation in order to make youth people meet the levels of participation.

Nonetheless, one considers the membership, such as public library, sport clubs, reflects to an economic status rather than cohesiveness itself in the society. For instance, people who live in Laares have a strong cohesion while their economic status is very low. People cannot afford to be the member of library or sport clubs. Social interaction can take place in different situations such as groups of friends, neighbourhoods. "All these networks facilitate participation in their own particular way and so lead to different results (Dekker, 2006, p. 86) Thus, these indicators may provide the general idea of participation.

Results have further showed that strong electoral participation also exists within the neighbourhood. People voting in a school located outside their neighbourhood as per voting schedules such as electoral ID 501, may not give 100% voting status for a particular neighbourhood. Higher percentage of electoral participation could be well observed in five of the electoral boundaries. Low participation in the electoral boundaries could be due to people's lifestyle. The groups of people such as factory workers are unlikely to participate in political issues but they have a strong connection within their group (Bootsma, A. and Wichern, M., personal communication, January 22, 2010). In addition, with more networks, organizations, or groups, people's participation and trust towards the political system also increases. "Participation in such networks is considered to be conducive to the development of a more generalized form of social trust, not contingent upon strong personal ties (Denters, 2002, p. 797)."

As for social networks dimension, the society is dynamic that causes the lifestyle to change from the past. There are many ways to connect people to outside even though they stay in one place. Thus, the network takes place not only in one neighbourhood, but also in the outside world.

5.1.2.2. Place attachment

With respect of place attachment dimension, it gives a feeling of security and self-image, including a bond between people, cultures and their experiences. “Neighbourhood attachment has received almost as much research attention as the social networks dimension (Dekker, 2006, p. 65)”. According to Cradock et al. (2009), cohesive social systems are associated with attachment to the neighbourhood areas and may also encourage the neighbourhoods in protecting from negative influences such as crime. “It is assumed that a strong attachment to a place and the intertwining of people’s identities with that of places contribute to social cohesion through their positive effects upon such things as the adherence to common values and norms and a willingness to participate in social networks and build social capital (Kearns and Forrest, 2000, p.1001)”. Residence length was associated with public library members, youth participation, houses with owner-occupiers, people aged ≥ 65 years old, non-Dutch ethnicity, crime and average personal disposal income (see Table 4.2).

As indicated by Sampson (1991), the residence length has direct effects on local friendships, attachment to community, and participation in local activities. Both high and low residence lengths could be observed within the different neighbourhoods. Analysis results have showed that City, Oikos, Eekmaat west and Horstlanden/Stads were the neighbourhoods with low average length as these areas were the new residential areas. According to De Haan (personal communication, January 26, 2010), it is important to note that the low average length does not mean low social cohesion. On the contrary, the longer years of residence directly increases place attachment (Sampson, 1988). The higher-income residents are likely to be attached to the neighbourhood because they have the resources to assure their needs. They have more chances in the housing market and they are able to search for something better than their present neighbourhood (Dekker, 2006). The residents in the new resident area also have a strong cohesion due to contacts with each other within their neighbourhood. The better housing condition can be explained. People prefer to live in these areas due to the facilities and the location that is not far from the city. They prefer the neighbourhood that suits their lifestyle (Bootsma, A. and Wichern, M., personal communication, January 22, 2010). They always invest in areas of convenience. The indicator of houses with owner-occupier analysis shows that ‘t Stokhorst (96.2%) and Stroinkslanden NW (86.8%) have high percentage while four of the neighbourhoods has low percentage of houses with owner-occupiers, less than 14.9%.

Analysis results have also showed that elderly people with more than 65 years of age has a strong attachment towards their neighbourhood as compared to the younger generation. Several factors may play an important role as to why younger people have less attachment towards their neighbourhoods. The neighbourhood may represent an important element of older people's sense of identity than would be the case for younger people. The older residents have spent a substantial period of their lives in a particular neighbourhood, deriving a strong sense of emotional investment both in their home and in the surrounding area (Scharf, Phillipson, & Smith, 2003). The indicator of people aged ≥ 65 years old mentioned to Bolhaar, Wesselerbrink ZO, and De Bothoven have a share with high percentage of people aged ≥ 65 years old because of the house care service which takes care of them. These people stay there

without any contacts to the outside world (De Haan, A., personal communication, January 26, 2010). The indicator of people aged ≥ 65 years old may represent the negative side. For instance, De Bothoven (neighbourhood ID 03) has a share of high percentage of people aged ≥ 65 years old which means that the municipality has to provide the health care facility for them.

The dimension of place attachment can lead to caring about what occurs in the neighbourhood so that it leads people to participate in the local activities. However, the drawback of place attachment is about the residents may come to exist in small closed communities. They do not share understandings and values with the wider society (Kearns and Forrest, 2000).

5.1.2.3. Common values

With respect to common values, the non-Dutch ethnicity should represent the concentration of some ethnic group, such as Moroccan. Then, the study (considering as cost) should consider Dutch common values because in this case there will be high cohesion if there were more Dutch people in the area. If we subtract the Dutch people from the total population, then it can be considered as benefit. A majority or a concentration of Dutch people will reflect high social cohesion. Also, it can be said that based on the interview, they agree that the ethnicity should consider the concentration of a particular group. The non-Dutch ethnicity is dependent on the mix group. The foreign group such as Moroccan, Surinam, Indonesian, have a strong cohesion within their own group, and so social cohesion is strong. Generally, the number of Dutch or mix ethnicity can represent the social cohesion; and can be suggested to focus on a particular group of foreigners in one area. The non-Dutch ethnicity is an important indicator to indicate if they know each other even though there are cultural differences. As indicated by Dekker and Bolt (2005), ethnic minorities have stronger tie than native Dutch ethnicity and have strong attached feeling to their place, but be less tolerant towards deviant behaviour. It can be said that ethnic minorities have a higher social cohesion within the neighbourhood areas. However, if there are a majority of Dutch people and many groups of foreigner in one pocket, social cohesion can be low.

The voting for political parties is not a good indicator as small differences in the vote among the different parties exists. Thus, it cannot reflect the real value of common people. However, Deters (2002) stated that people have an expectation towards the state or government and its elected representatives whom should act in the interest of people. As for political institutions and engagement with political systems, common values can show people's attitudes towards the political system and their role in it. Citizens' knowledge of the political system, their reaction and their judgment is always very important. To be cohesive in the politic view, people should be disposed towards taking part in local or national politics.

5.1.2.4. Social order

With respect to social order, higher crime rates in the city may be attributed to different factors such as drinking, unemployment, school or college dropouts, and also lower level of income. Higher crime rates could also be attributed to areas with people addicted to drinks and drugs living in the area. Also, the crime affects social cohesion because people feel unsafe and then do not want to live in the neighbourhood. The high number of crime incidence in the urban area can be explained by the loss of social buffer, comprising of formal and informal networks and norms that relate to labor force participation and education attainment (Lindström, Merlo, & Östergren, 2003). The percentage of crime rate does not represent social cohesion, but rather to an environment. Some neighbourhoods, such as Hogeland-Noord (neighbourhood ID

04) used to have a high crime rate but there is a strong cohesion. (Bootsma, A. and Wichern, M., personal communication, January 22, 2010). On the contrary, crime is related to less neighbourhood attachment (Brown, Perkins, & Brown, 2003). If the people think that their place is unsafe then social cohesion may be affected because of less contact with other people. Then, classifying the type of crime in that area is important in order to know which one affects social cohesion; for instance, physical crime and social crime causes the low social cohesion. There are the certain parts in the city with a high level of crime rate. The main cause is due to drunkenness. If there are other areas with people addicted to drugs or drinks then crime rate in the area increases. At a micro-level, social order problems are manifested as issues of crime, incivility and informal social control. "People feel safe in their neighbourhood and area not restricted in their use of public space by fear (Forrest & Kearns, 2001, p. 2140)". Local policies should encourage a sense of safety in residents; involvement in local crime prevention; providing visible evidence of security measures.

5.1.2.5. Wealth disparities

With respect of wealth disparities, it was noted that there was no discrimination between the neighbourhoods as the secondary education in the Netherlands is compulsory. Using the education indicator, it can reflect cohesion if it could show the percentage of people going to higher education. Theoretically, it should be 100% as it is compulsory. It is also important to check the data to see the variation and to check the level of education attainment. The indicator of education may be applicable to the under developed countries instead because the education attainment is compulsory for the people in the Netherlands.

Further analysis also showed that there is the interrelation among different indicators such as the percentage of crime rate and the percentage of houses with owner-occupiers, average income and the percentage of houses with owner-occupiers. This may be due to the fact that the residents with higher incomes are likely to attach importance to the symbolic value of the neighbourhood area. They also prefer to look for the suitable neighbourhood based on their satisfaction. The low-cost housing explains why the some ethnicity concentrates in a particular area and why they the area of their ethnicity.

It is realised that some of the indicators have the shortcoming that do not represent social cohesion itself. It is possible that some indicators cannot be applied according to the literature due to the characteristics of people and spatial area. A proper method of collecting primary data such as interviewing local people is essential. It is suggested to revise the standards set for indicators used in the present study, for example, the indicator of education is useful to reflect the wealth disparities but can also be un-useful in certain circumstances.

5.2. Approach to measure social cohesion

Measurement of a social cohesion at neighbourhood level depends on the applied concept and data availability. The measurement of social cohesion will vary from place to place and also the type of indicators used. Social cohesion has a multidimensional and multilevel concept. It can be viewed as a condition of political stability and security. Attention to the spatial area focuses on the recognition of the different problems and potentials of area, even though community or neighbourhood is difficult to identify based on geographic maps. "It would seem suitable to measure cohesion at the neighbourhood level as communities are where people live, share, and engage in day-to-day activities (Rajulton, et al., 2007, p. 464)". Social cohesion at the neighbourhood level is significant due to the degree of mutual contacts and the feelings of connectedness with the neighbours (Kearns & Parkinson, 2001).

In this study, *z-score* method shows that if the mean value increases in one (or there is improvement in some of neighbourhood), then the other value falls in the lower range. That is why it has a high standard. It is difficult to find the fit standard or relative standard or absolute standard. For example, 100% of people should have access to the library but below 100% will mean that this neighbourhood is deprived. But in this study, we did not have the standards. That's why *z-score* was applied in order to assess the high and low social cohesion by using cut-off points. Mean comparison was done with the neighbourhoods. Due to absence of absolute standard, the map of Enschede (with mean value) could not be compared with that of Deventer, for instance. Not only using the map to measure social cohesion, but also interviewing the local people, coordinator of community, key stakeholder, or police in order to know their perception. The advantage of the mean *z-score* is that it directly describes the level of social cohesion. The frequency curve or histogram of the *z-score* provides a complete picture of the whole distribution.

The weight technique method was applied by assigning equal weight and expert opinions from the managers of district and staff of I&O Research. It was found that the findings of different weight methods do not vary, even though the increasing of weight on a certain dimension was assigned to the dimension of place attachment by 40%. The experts gave importance, mostly to social networks, place attachment, and common values (see section 4.3); whereas, the dimension of wealth disparities was considered to be most important with regards to experience in UK (section 2.3). The neighbourhoods with the high social cohesion are 't Stokhorst, Bolhaar, Dorp Lonnerker, Dorp Boekelo and Wooldrik. Anyway, the different weight score is sensitive to the neighbourhood with the lowest social cohesion such as the Pathmos neighbourhood.

5.3. Policy implications

As indicated by Van Kempen and Bolt (2009), the lack of cohesion occurs as just one of the issue in most neighbourhoods. When social cohesion is mentioned in local policies, it is often not clear what kind or aspect of social cohesion is the most problematic. Similarly to Enschede, lack of social cohesion was not a big problem as it appears only in the certain areas (De Haan, A., personal communication, January 26, 2010). So recognizing such a problem among people is very less.

From the findings, it was found that some indicators and dimensions were very good while others are less reliable. Also, there were the different issues from the literature and the interviews. The residents are the most important actors who generate neighbourhood cohesion (Dekker, 2006) due to the lifestyle and characteristics. Different lifestyle also affects social cohesion. Any new comers, such as starting households or student, look for new houses with a good environment or are mostly attracted by the low rents rather than cohesion itself because they want to satisfy their needs. They do not intend to live in the neighbourhoods for very long time. Therefore, they intend to be less attached to their place. Moreover, cohesion is about the relationships between different groups. The differences, such as life style, age, income, may be the cause of divides in some areas. The policies should be based on local knowledge of where divides and tension lie (Department for Communities and Local Government, 2009). In order to recognise how cohesive an area is depends on a series of interacting factors such as characteristics and history of the area, resident's personal socio-demographic characteristics, and residents' attitudes to their neighbourhood area. The policy should deal with the interests and needs of the residents. "To enhance social cohesion in a mix neighbourhood, the

accommodation of the diversity in the neighbourhoods and investment with respect of the differences between groups, intergroup communication and co-operation are therefore important (Dekker & Bolt, 2005, p. 2468).”

The map showing the grade of social cohesion per neighbourhood is useful and it will give the policy-maker the first indication study for example by talking with key-persons (professionals and volunteers). For instance, the Velde-Lindenhof and Wesselerbrink neighbourhoods are two of the priority neighbourhood out of 56 involved to the policy under Big City Policy-III (2004-2009). These neighbourhoods concern with the deprivation problem. The Pathmos neighbourhood is priority at local policy. All of them are the places where there are the gaps and residents faces difficulties in their situation. According to the findings of index of social cohesion, these three neighbourhoods have a share of low score of social cohesion (-0.93 to -0.31) (see Figure 4.18 and Appendix E). The Pathmos neighbourhood has the worst ranking (50) among those neighbourhoods. Further results of state of social cohesion (Figure 4.23), it showed that the Wesselerbrink and Pathmos neighbourhoods are excluded, whereas, the Velde-Lindenhof neighbourhood has a strong cohesion within society but not linked to outside world.

As for the policy, for instance, the priority of the Municipality should be to stimulate people in the neighbourhood such as City, Lasonder/’t Zeggelt, Laares (see Figure 4.23) to participate in activities by providing friendly green and safe public space such as playground, sport facilities, and common meeting space for the different ethnicities. Moreover, it is noticed that people in the deprived neighbourhoods, such as Velde-Lindenhof, Dolphia and Schreurserve have a strong place attachment and also strong common values; however, they have a weak social network and social order. The Municipality should provide the facilities and infrastructures to make the residents feel comfortable and safe in their neighbourhood. People should be encouraged to take part in social and community activities; local events occur and are well attended. Local policies should establish and support local activities and local organisations; publicizing local events such as open-market, festival.

In addition, social cohesion and governance are related via participation. The participation has a positive influence on social cohesion (Dekker, 2006). Due to participation, they know how to behave and express their feeling of belonging to the neighbourhood. This leads to cohesive society as well as the higher levels of participation. Therefore, it is important that the local private and public parties should enhance social cohesion in the neighbourhoods by encouraging the residents to decision making procedures. As indicated by Van Marissing et al. (2006), it refers that where people have a chance to participate in governance structure, the chance that social networks appear is greater than in a situation where people in one neighbourhood are likely to be excluded from policy procedure. The relationship between people and institutions is important. When people can meet each other, social networks can be established.

6. Conclusion and recommendation

The concluding chapter contains the outline of the research findings of the respective research objectives, research questions and the recommendation based on the findings.

6.1. Conclusion

The aim of this study was to get a better insight into concept of social cohesion and how to measure social cohesion at the neighbourhood level. The study proposed five dimensions of social cohesion: social networks, place attachment, common values, social order, and wealth disparities, including the indicators to measure social cohesion based on literature review, the secondary data availability and the possibility to do with the available data of the Municipality of Enschede.

6.1.1. To identify and compare the various definition and interpretation of social cohesion

From the literature, it was found that the research efforts into social cohesion have been increased dramatically. Several researchers and policymakers approach social cohesion from distinct disciplines, such as political science, sociology, economics, and attempt to find out where social cohesion is good for following to the field of interest. One can define the term of social cohesion depending on the problems or concerns to the local area in order to understand its concept in common. However, it is important to acknowledge that social cohesion is a highly complex phenomenon that is difficult to reduce to one latent conception. Many various definitions of social cohesion are drawn. The concept of social cohesion refers to both positive and negative aspect. The concept of social cohesion is about the state of affairs that people participate in the society, have a sense of belonging, share the same goal and values, minimize the conflicts and have a well-being. The society is dynamic that causes the life style changed from the past. There are many ways to connect the people outside even people stay in one particular place. The connection can take place not only in one neighbourhood, but also outside world. Cohesion is about to try to influence attitudes and behaviours of people. Cohesion is not about trying to make everyone the same; however, it is about to give residents the skills to respect difference, to deal with the change and welcome new residents.

6.1.2. To compare the various approaches to measure social cohesion

Social cohesion is multidimensional and multilevel. It can correspond to the different spatial areas of public policies which are the national/interurban, city/city-region, and neighborhood scale. The policies may be formulated and implemented to address according to those different scales. The measurement of social cohesion varies from place to place and kind of indicators used. To measure social cohesion at neighbourhood level is dependent on the concept and data availability.

6.1.3. To develop and apply the proper way to measure social cohesion

To recognise how cohesive an area is will depend on a series of interacting factors such as characteristics and history of the area, resident's personal socio-demographic characteristics, and resident's attitudes. Developing an indicator helps to better understand the problem of social cohesion, its components and the spatial concentration. An indicator of social cohesion can facilitate the applicability of policy and action. Based on the Kearns and Forrest dimensions of social cohesion, this study has gathered a possible range of proxy indicators. The dimensions of social cohesion and indicators are as well identified with the horizontal and vertical aspects. This is the second step to provide an analytical framework within which indicators are collated and analyzed. Social cohesion is measured by using either horizontal or vertical perspectives. Making use of horizontal and vertical terms is to reflect people's participation and their perception of social structure. These perspectives are combined in order to operationalise a framework for measuring social cohesion in the analysis section. Each indicator interrelates among them. The z-score method was applied to standardize the indicators. This technique converts the indicators into the normal distribution before the classifications are done. In addition, the interpretation of z-score is easy to understand by considering the standard deviation values. Other advantages of the use of z-score are those associated with being continuous variables, such as increased statistical power compared with the use of a cut-off point. It allows policy targeting by ranking areas. Using the mean z-score as an index of social cohesion may also result in increased awareness among the policy makers, if a condition is severe; an intervention is required for the entire community, not just those who are classified as low cohesion by the cut-off criteria. Anyway, the z-score is sensitive to the change of weighting. The opinions of expert can be use to develop a weighting system, by integrating the experience, to particular dimension.

6.1.4. To discuss the policy implications of social cohesion measurement

Based on the literature reviews, analysis, and interviews, we have observed that fostering social cohesion is a challenge to the authorities. This is because social cohesion has both positive and negative affects. People have a strong attachment to their place but they may not share their common values to the outside society. Building social cohesion is about building better relationships between people from the different backgrounds including those from the new and the settled neighbourhoods. However, it is recognised that solution of social cohesion measurement does not fit all. One single solution in one area may not work in another if simply copied. Therefore, good practice in one place may not be transferable to another but it may inspire an action that will work in another place.

Based on the study, it is acknowledged that participation is related mutually to social cohesion. Governance structure can foster the residents to participate in some activities such as decision making in policy. "Governance can reinforce or mitigate the operation of the relationship between participation and social cohesion (Dekker, 2006, p. 30)." This could be implemented for the dimension of social networks which is drawn between strong and weak ties. It can be said that social networks are seen as the equivalent of social capital. "If social links between individuals consist of both strong and weak ties, then social networks are not only supportive and also help people to get by; they also give people new opportunities (Dekker, 2006, p. 109)." The feeling of attachment is related to participation as well. Participation is encouraged when the resident feel that they belong to their place. People, therefore, intend to change the social and political environment to improve the quality of life.

But at the same time, areas like Velve-Lindenhof, Dolphia face the problem like wealth disparities which in turn may affect the implementation of such policy. The policy intervention should foster income or rate of employment.

Moreover, in order to stimulate social cohesion, the local policies should establish and support local activities and local organizations; publicizing local events, including the development of network between organizations in the neighborhood. People are able to co-operate with one another through the formation of formal and informal groups to further their interests. The political system or policy perspective has affect on improving the structure of social cohesion components and a way to measure.

6.2. Recommendation

As mentioned in chapter one, this study tried to make research based on the possibility of the secondary data availability by applying the statistical techniques. For further study, it is recommended to;

- measure social cohesion at a lower spatial scale, such as the postcode level, zip code, and also make interviews to local people, key stakeholders and police to collect people's perception. Social cohesion may concentrate in certain area of the neighbourhood which depends on the characteristics of the residence.
- select some neighbourhoods from the state of social cohesion (excluded neighbourhood, strong within society but not linked outside world, individualistic, and strong cohesion at large) in order to explain the factors of these phenomena.
- reveal whether other aspects of social cohesion can be detected and how the various aspects of social cohesion are interrelated to each other in the particular area.

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Appendix

Appendix A: Conceptualisation of dimension, indicators and interpretation of social cohesion

Theoretical : Academic theory				
Authors	Dimensions	Indicators	Rationale / Interpretation	Data sources
Kearns & Forrest (2000)	1.Common values/ Civic culture	-compulsory (religious) education -people's attitude towards the political system and their role	-People share common values which enable them to identify and support common aims and objectives, and share a common set of moral principles and codes of behaviour through which to conduct their relations with one another. -As well, it is crucial to examine political values and the operation of political institutions by looking at citizens' knowledge of the system, their feeling towards and their judgement. -The absence of general conflict within society and of any serious challenge to the existing order and system.	-
	2. Social order/ Social control	-crime	-It refers to the harmonious development of society and its constituent groups towards common economic, social and environmental standards.	
	3. Social solidarity/ Wealth disparities	-income -employment -access to service	-It implies to extending opportunities for income-generating activities, higher quality of life, and open access to services of general benefit and protection	
	4. Social networks/ Social capital	-ties of kinship -ties of friendship -participation -voluntary co-operation	-The relationship refers to help each other get through life effectively and responsibly. -It facilitates dilemma and problem solving.	
	5. Place attachment/ identity	-time lived in the neighbourhood	-It refers to the adherence to common values and norms as a willingness to participate in social networks and build social capital.	
				-National level -City level -Local level

Appendix A: Conceptualisation of dimension, indicators and interpretation of social cohesion (Cont'.)

Theoretical : Academic theory				
Authors	Dimensions	Indicators	Rationale / Interpretation	Data sources
Chan et al. (2006)	1. Subjective components	<ul style="list-style-type: none"> -general trust with fellow citizens -willingness to cooperate and help -sense of belonging/identity -trust in public figures -confidence in political/social institutions 	<ul style="list-style-type: none"> -The attempt is to conflate the content with the causes of social cohesion. (the criterion of animals definition) -These indicators try to measure overall level of general trust that is mutual trust among citizens; people's willingness to help and cooperate with others; citizens' sense of belonging and identity with the country. -The sense of belonging is fundamental to the existence of the group. 	-Questionnaire
	2. Objective components	<ul style="list-style-type: none"> -social participation -voluntarism and donations -presence/absence of major inter-group alliances -Political participation 	<ul style="list-style-type: none"> -These indicators try to measure the vibrancy of civil society that is people's degree of social participation; people's act of voluntarism and donation (both organized and self-initiated voluntarism and donation have been taken into account), and any emerging inter-group alliances or cleavages in societies (both strong alliances and strong cleavages will lower the overall level of social cohesion); people's trust in both the major public figures and political and social institutions; and people's political participation. 	
				Degree of implementation -National level -Local level

Appendix A: Conceptualisation of dimension, indicators and interpretation of social cohesion (Cont'.)

Theoretical : Academic theory				
Case	Dimensions	Indicators	Rationale / Interpretation	Data sources
Stafford et al. (2003)	1. Structural aspects (social network) (Cont.)	-family ties -friendship ties -participate in organized activities -integration into wider society	-It refers to strong familial attachments may discourage social and residential mobility. The measures distinct contact with friends and with family who live in the same neighbourhood (but not in the same household). -Social networks may take the form of membership of formal or organized associations. Regular participation in a number of different types of organisations with people in the neighbourhood is measured. -More or less integrated forms of social networks are distinguished by measuring the extent to which people's relationships are mostly with people in the same area, mostly with people outside the local area or spread between the two, with this last being considered the most integrated.	-Questionnaire
	2. Cognitive aspects (Social interaction)	-trust -attachment to neighbourhood -practical help -tolerance/respect	-Trust is required in order for people to be willing to act for the common good. Trust is measured by the use of a series of opposing statements at either end of a row of seven boxes; respondent are asked to place a tick in the one box which best represented their agreement with the statement. -Membership of a group or network can produce a sense of belonging or attachment, through both formal and informal contact with others. It is measured by the use of opposing statement. -It refers to rely on others for help with everyday activities. It is a measure of the help available from informal networks, rather than reliance on state-provided help or services purchased from commercial organisations. -It refers if there are potential downsides of social cohesion in that a strong group identity can result in exclusion of or prejudice against those seen as outsiders. Strong neighbourhood ties coupled with low exposure to diverse groups of people may encourage intolerance.	-City Level

Appendix A: Conceptualisation of dimension, indicators and interpretation of social cohesion (Cont'.)

Theoretical : Academic theory					
Case	Dimensions	Indicators	Rationale / Interpretation	Data sources	Degree of implementation
Dekker (2006)	1.Social networks	-the importance of the neighbourhood for the circle of fellows -having family members in the neighbourhood; - chatting with neighbours.	-It is crucial that individuals have contacts with other individuals. People can learn from each other and support one another.	-Census -Questionnaire	-Local level
	2.Common values	-consists of two indicators that are composed from the respondents' reactions to eight descriptions of deviant behaviour.	-It deals with a shared set of values, norms, needs and threat (behaviour, interest). These indicators point out the attitudes towards social behaviour, childrearing, respect for generally agreed rules, and feeling to social welfare system. The answer is measured by point-scale.		
	3.Place attachment and identity	-measured by 15 statements to which the residents are asked to react on a Likert scale.	-It is about the identification of the individual with the wider social system. Place attachment leads to a feeling security, bond to people, and self-image. These 15 statements refer to feelings related to the neighbourhoods and the matter that they derive part of the identity from the place they live.		
Jenson (1998)	1.Sense of belonging		-It refers to the existence or absence of shared values and a sense of identity. This allows people to feel committed and part of the same community.	-	-National level
	2.Inclusion		-It looks at the equality of opportunity among citizens in economic realms, which is market.		
	3.Participation		-Social cohesion requires involvement. It focuses on people's political participation at both the central and the local levels of government.		
	4.Recognition		-It concerns the respect for difference of tolerance for diversity in society.		
	5.Legitimacy		-It refers to the maintenance of legitimacy of major political and social institutions.		

Appendix A: Conceptualisation of dimension, indicators and interpretation of social cohesion (Cont'.)

Theoretical : Agenda / Policy				
Case	Dimensions	Indicators	Rationale / Interpretation	Data sources
The Netherlands experience*	1.Social networks /social capital		<ul style="list-style-type: none"> -Bonding social capital and bridging social capital -It deals with the connection between people to individuals, groups and institutions inside/outside their own community. -People in their free time are able to choose what they do, how they do it, and with whom. -Civil-society organisation creates a bond between citizens which engender individual learning effects such as trust. -It regards as associational life, neighbourly relations, informal help network, social relationships of minorities, social contacts via digital channel and participation in religious groups. 	<ul style="list-style-type: none"> -Census -Questionnaire
	2. Social order/ social control		<ul style="list-style-type: none"> -The presence of safety can be increased by strengthening the social cohesion within neighbourhoods. 	
	3.Mutual solidarity/social exclusion		<ul style="list-style-type: none"> -It refers to inadequate social participation, insufficient normative integration, material deprivation and insufficient access to basic social rights. 	

Source: Social and Cultural Planning Office of the Netherlands (2008)

Remark: civic culture /common values, a sense of collective identity and loyalty of the political system are other aspects related to above dimensions

Appendix A: Conceptualisation of dimension, indicators and interpretation of social cohesion (Cont'.)

Case	Theoretical : Agenda / Policy				Degree of implementation
	Dimensions	Indicators	Rationale / Interpretation	Data sources	
The United Kingdom experience**	1. Material conditions	<ul style="list-style-type: none"> -income -employment -education and skills -health and well-being -housing and residential segregation 	<p>-These basic necessities of life are the foundations of a strong social fabric and important indicators of social progress. It refers to relations between and within communities suffering when people lack work and endure hardship and bad living condition.</p>	<ul style="list-style-type: none"> -Census -Questionnaire 	-City level
	2. Social order	<ul style="list-style-type: none"> -fear of crime, feeling unsafe after dark or racist crime 	<p>-It refers to safety and freedom from fear or passive social relationship. Tolerance and respect for other people, along with peace and security are hallmarks of a stable and harmonious society.</p>		
	3. Social relationship	<ul style="list-style-type: none"> -formal volunteering -having friends from different ethnic groups -people pulling together to improve neighbourhood -people willing to help neighbours 	<p>-It refers to the positive interactions, exchanges and networks between individuals and communities, or active social relationships such as contacts, connections. This offer people support, information, trust and credit.</p> <p>-Individuals who engage in formal volunteering are more positive about cohesion. They are likely to feel more empowered, have more interaction and form networks with individuals in the neighbourhoods that they may not be in contact with otherwise.</p> <p>-Having friends from ethnic group other than one's one is a strong positive predictor of cohesion, as is the sense that resident in the neighbourhoods will pull together to improve it.</p>		
	4. Social inclusion	<ul style="list-style-type: none"> -trust in institutions -trust local people -perceived ability to influence local decision -belong to Britain 	<p>-It is about the extent of social integration of people into the mainstream institutions of civil society. It includes a sense of belonging to a city and the strength of shared experiences, identities and values.</p>		
	5. Social equality		<p>-It refers to the level of fairness or disparity in access to opportunities or material circumstances. The opposite is a high level of inequality in living standards of unequal prospects for upward social mobility.</p>		

Source: Department for Communities and Local Government (2006)

Appendix B: Comparison of dimensions/aspects of social cohesion

Authors	Dimensions/Aspects				
	Social network	Place attachment	Common values	Social order	Wealth disparities
Kearns and Forrest (2000)	✓	✓	✓	✓	✓
Chan et al. (2006)	✓	✓	✓		
Stafford et al. (2003)	✓	✓	✓		
Jenson (1998)	✓	✓	✓	✓	✓
Dekker (2006)	✓	✓	✓		
SCP (2008)	✓			✓	✓
UK (2006)	✓	✓		✓	✓
Subjective component		✓	✓		
Objective component	✓			✓	✓
Horizontal aspect	✓	✓	✓	✓	✓
Vertical aspect	✓			✓	✓
Macro level	✓			✓	
Micro level	✓	✓	✓		✓

Source: Based on literature review

Appendix C: Proposed dimension, indicators and interpretation of social cohesion

Dimensions	Indicators	Rationale	Definition	Type of data	Used Data	Sources	Year	Spatial unit	Horizontal/ Vertical aspect
1.Social networks	-Public library members	-Social network may take the form of membership of formal or organized associations such as public library.	-Percentage of public library members	-Secondary data	-Social miscellaneous	- Municipality of Enschede	-2007	-Neighbourhood	-Horizontal/ Vertical
	-Youth participation	-To participate or involve in association will be presumed to be more cohesive by youth group (aged 5-17 years old).	-Percentage of youth participation	-Secondary data	-Social miscellaneous	- Municipality of Enschede	-2007	-Neighbourhood	-Horizontal/ Vertical
	-Electoral participation	-It refers that people are politically active and voting is very visible way of politically action. It empowers people by allowing them to influence decision and foster a sense of belonging to their place	-Percentage of voter who have county rights	-Secondary data	-Municipal elections	-Municipality of Enschede, I&O Research*	- 2006	-Neighbourhood	-Vertical

Appendix C: Proposed dimension, indicators and interpretation of social cohesion (Cont')

Dimensions	Indicators	Rationale	Definition	Type of data	Used Data	Sources	Year	Spatial unit	Horizontal/ Vertical aspect
2.Place attachment	-Length of residence	-It is a temporal process that influences attitudes and behavior toward the neighbor. It has directly effects on local friendships, attachment to community, and participation in local activities.	-Average living period (in year)	-Secondary data	-Average total length of residence	-Municipality of Enschede	-2007	-Neighbourhood	-Horizontal
	-Houses with owner-occupiers	-It represents an investment that predicts both neighbourhood quality and place attachment. It implies that people become devoted to the neighbourhood due to they stay longer and invest more money in housing. Then, they feel belong to a certain group, neighbourhood and lifestyle. People are aware of and attached to the place and invest in their property.	-Percentage of houses with owner-occupiers	- Secondary data	-Houses where the owner resides	- Municipality of Enschede, I&O Research*	-2007	-Neighbourhood	-Horizontal
	-Aged ≥ 65	-It refers the elderly (aged ≥ 65) are more likely to have a strong neighbourhood attachment than are younger people.	-Percentage of people aged ≥ 65	- Secondary data	-Population age	- Municipality of Enschede	-2007	-Neighbourhood	-Horizontal
3.Common values	-Non-Dutch ethnicity	-It refers if people with the same race, religion and national origin tend to be part of the same network, have a common set of values and goals as well as a general idea about social order.	-Percentage of Non-dutch	-Secondary data	-Population	- Municipality of Enschede	-2007	-Neighbourhood	-Horizontal
	-Party voting	-It implies that high concentration in one particular party may indicate to a same idea of people.	-Concentration of political party voting	- Secondary data	- Municipal elections	- Municipality of Enschede, I&O Research *	-2006	-Neighbourhood	-Horizontal/ Vertical

Appendix C: Proposed dimension, indicators and interpretation of social cohesion (Cont')

Dimensions	Indicators	Rationale	Definition	Type of data	Used Data	Sources	Year	Spatial unit	Horizontal/ Vertical aspect
4.Social order	-Crime rate	-It refers to high number of deviant behavior and crime will present when society becomes disorder.	-Percentage of crime rate (physical + social crime rate)	-Secondary data	-Physical insecurity	- Municipality of Enschede, I&O Research	-2007	-Neighbourhood	-Horizontal
5.Wealth disparities	-Income	-It indicates the cleavage between habitants who have and those who have not. Also it assumes that the deprived neighbourhood is with low average personal income per year (below 15500 euros).	-Average personal disposal income per year	-Secondary data	-Income (GPI per capital, per household)	- Municipality of Enschede	-2007	-Neighbourhood	-Horizontal/ Vertical
	-Unemployment	-It refers to the risk of social exclusion and poverty due to the difficulty to obtain the resources necessary to acquire goods and services.	-Percentage of unemployed in comparison to the percentage of the total labour force	-Secondary data	-Unemployed labour	- Municipality of Enschede,	-2007	-Neighbourhood	-Horizontal/ Vertical
	-Education	-It implies that education is an effective tool in combating inequalities. The lack of education is a very serious obstacle to individuals' productive integration into the labour market.	-Percentage of population, aged 5-17 year-old enrolled in school.	-Secondary data	-Education	-Municipality of Enschede, I&O Research*	-2007	-Neighbourhood	-Horizontal/ Vertical

Appendix D: Index of social cohesion and ranking of neighbourhoods

Municipality	Index	Rank
53 't Stokhorst	1.52	1
41 Bolhaar	1.40	2
90 Dorp Lonneker	1.15	3
91 Dorp Boekelo	1.13	4
11 Wooldrik	0.98	5
12 Hogeland-Zuid	0.82	6
27 't Zwering	0.78	7
60 Stroinkslanden NO	0.75	8
52 Park Stokhorst	0.72	9
62 Stroinkslanden NW	0.69	10
81 Bentveld/Bultserve	0.65	11
28 Ruwenbos	0.60	12
67 Helmerhoek-Noord	0.49	13
80 Glanerveld	0.49	14
40 Walhof/Roessingh	0.42	15
88 Eekmaat west	0.33	16
30 Tubantia/Toekomst	0.23	17
45 Voortman/Amelink	0.18	18
68 Helmerhoek-Zuid	0.15	19
13 Varvik/Diekman	0.02	20
84 Oikos	0.00	21
50 Schreurserve	-0.03	22
01 Lasonder/'t Zeggelt	-0.03	23
25 Elferink/Heuwkamp	-0.06	24
51 't Ribbelt/Ribbelerbrink	-0.10	25
82 Schipholt/Glanermaten	-0.11	26
83 de Eekmaat	-0.12	27
02 Laares	-0.18	28
07 Horstlanden/Stadsweide	-0.19	29
42 Roombeek/Roomveldje	-0.20	30
05 't Getfert	-0.21	31
04 Hogeland-Noord	-0.28	32
26 Stadsveld-Noord/Bruggert	-0.31	33
03 De Bothoven	-0.32	34
06 Veldkamp, Getfert-West	-0.34	35
21 Boswinkel/de Braker	-0.35	36
64 Wesselerbrink ZO	-0.36	37
23 Stevenfenne	-0.41	38
44 Deppenbroek	-0.47	39
31 Tweekelerveld	-0.50	40
10 Velve/Lindenhof	-0.52	41
24 Stadsveld-Zuid	-0.53	42
08 Boddenkamp	-0.56	43
87 Dolphia	-0.59	44
61 Stroinkslanden Zuid	-0.60	45
65 Wesselerbrink ZW	-0.63	46
43 Mekkelholt	-0.63	47
66 Wesselerbrink NW	-0.68	48
63 Wesselerbrink NO	-0.81	49
22 Pathmos	-0.89	50
20 Cromhoffsbleek/Kotman	-0.92	51
00 City	-1.31	52

Equal weight (20%)

Appendix E: Index of social cohesion and ranking of neighbourhoods

Expert opinion weight 1:

Municipality	Index_35	Rank
53 't Stokhorst	1.75	1
41 Bolhaar	1.72	2
90 Dorp Lonneker	1.28	3
91 Dorp Boekelo	1.21	4
11 Wooldrik	1.14	5
12 Hogeland-Zuid	0.87	6
52 Park Stokhorst	0.77	7
27 't Zwering	0.77	8
60 Stroinkslanzen NO	0.77	9
81 Bentveld/Bultserve	0.76	10
62 Stroinkslanzen NW	0.69	11
67 Helmerhoek-Noord	0.50	12
28 Ruwenbos	0.49	13
80 Glanerveld	0.44	14
40 Walhof/Roessingh	0.43	15
30 Tubantia/Toekomst	0.20	16
45 Voortman/Amelink	0.16	17
68 Helmerhoek-Zuid	0.12	18
88 Eekmaat west	0.11	19
01 Lasonder/'t Zeggelt	0.08	20
13 Varvik/Diekman	0.04	21
50 Schreurservé	0.03	22
82 Schipholt/Glanermaten	-0.05	23
25 Elferink/Heuwkamp	-0.15	24
64 Wesselerbrink ZO	-0.17	25
51 't Ribbelt/Ribbelerbrink	-0.20	26
26 Stadsveld-Noord/Bruggert	-0.21	27
83 de Eekmaat	-0.23	28
05 't Getfert	-0.28	29
04 Hogeland-Noord	-0.29	30
84 Oikos	-0.30	31
02 Laares	-0.31	32
21 Boswinkel/de Braker	-0.34	33
44 Deppenbroek	-0.38	34
42 Roombeek/Roomveldje	-0.39	35
08 Boddenkamp	-0.40	36
06 Veldkamp, Getfert-West	-0.41	37
07 Horstlanden/Stadsweide	-0.45	38
03 De Bothoven	-0.45	39
23 Stevenfenne	-0.50	40
10 Velve/Lindenhof	-0.51	41
24 Stadsveld-Zuid	-0.54	42
31 Tweekelerveld	-0.56	43
66 Wesselerbrink NW	-0.57	44
43 Mekkelholt	-0.59	45
65 Wesselerbrink ZW	-0.60	46
61 Stroinkslanzen Zuid	-0.61	47
63 Wesselerbrink NO	-0.67	48
87 Dolphia	-0.81	49
20 Cromhoffsbleek/Kotman	-0.88	50
22 Pathmos	-1.05	51
00 City	-1.14	52

social networks 35%, place attachment 35%,
common values 10%, social order 10% and
wealth disparities 10%

Appendix F: Index of social cohesion and ranking of neighbourhoods

Expert opinion weight 2:

Municipality	Index_40	Rank
41 Bolhaar	1.57	1
53 't Stokhorst	1.57	2
91 Dorp Boekelo	1.26	3
90 Dorp Lonneker	1.23	4
11 Wooldrik	1.10	5
12 Hogeland-Zuid	0.90	6
52 Park Stokhorst	0.73	7
62 Stroinkslanzen NW	0.71	8
60 Stroinkslanzen NO	0.66	9
81 Bentveld/Bultserve	0.58	10
27 't Zwering	0.52	11
80 Glanerveld	0.49	12
28 Ruwenbos	0.40	13
45 Voortman/Amelink	0.38	14
40 Walhof/Roessingh	0.37	15
67 Helmerhoek-Noord	0.35	16
30 Tubantia/Toekomst	0.26	17
88 Eekmaat west	0.14	18
50 Schreurserve	0.05	19
68 Helmerhoek-Zuid	0.03	20
13 Varvik/Diekman	0.01	21
25 Elferink/Heuwkamp	-0.05	22
83 de Eekmaat	-0.07	23
82 Schipholt/Glanermaten	-0.07	24
01 Lasonder/'t Zeggelt	-0.08	25
51 't Ribbelt/Ribbelerbrink	-0.11	26
84 Oikos	-0.21	27
04 Hogeland-Noord	-0.26	28
64 Wesselerbrink ZO	-0.26	29
03 De Bothoven	-0.26	30
05 't Getfert	-0.29	31
02 Laares	-0.32	32
21 Boswinkel/de Braker	-0.32	33
26 Stadsveld-Noord/Bruggert	-0.32	34
42 Roombeek/Roomveldje	-0.33	35
07 Horstlanden/Stadsweide	-0.34	36
06 Veldkamp, Getfert-West	-0.34	37
23 Stevenfenne	-0.38	38
08 Boddenkamp	-0.44	39
44 Deppenbroek	-0.46	40
24 Stadsveld-Zuid	-0.46	41
10 Velve/Lindenhof	-0.51	42
87 Dolphia	-0.55	43
31 Tweekelveld	-0.56	44
43 Mekkelholt	-0.62	45
61 Stroinkslanzen Zuid	-0.63	46
65 Wesselerbrink ZW	-0.64	47
66 Wesselerbrink NW	-0.66	48
63 Wesselerbrink NO	-0.77	49
00 City	-0.87	50
20 Cromhoffsbleek/Kotman	-0.88	51
22 Pathmos	-0.92	52

social networks 10%, place attachment 40%,
common values 20%, social order 10% and
wealth disparities 20%

Appendix G: Horizontal and vertical summary score

Municipality	Horizontal score	Vertical score	Code_HV	Explanation
20 Cromhoffsbleek/Kotman	2.2	2	1	Excluded
22 Pathmos	2.2	2.4	1	Excluded
63 Wesselerbrink NO	2.4	2	1	Excluded
66 Wesselerbrink NW	2.4	2.4	1	Excluded
43 Mekkelholt	2.6	2	1	Excluded
65 Wesselerbrink ZW	2.4	2.6	1	Excluded
61 Stroinkslanden Zuid	2.4	2.4	1	Excluded
87 Dolphia	2.8	1.6	1	Excluded
08 Boddenkamp	2.2	2.8	1	Excluded
24 Stadsveld-Zuid	2.6	2.4	1	Excluded
31 Tweekelerveld	2.4	2.2	1	Excluded
44 Deppenbroek	2.6	2.4	1	Excluded
23 Stevenfenne	2.8	2.4	1	Excluded
64 Wesselerbrink ZO	2.8	2.4	1	Excluded
21 Boswinkel/de Braker	2.8	2.4	1	Excluded
06 Veldkamp, Getfert-West	2.6	2.6	1	Excluded
03 De Bothoven	2.8	2.6	1	Excluded
26 Stadsveld-Noord/Bruggert	2.8	2.6	1	Excluded
04 Hogeland-Noord	2.6	2.6	1	Excluded
51 't Ribbelt/Ribbelerbrink	2.8	2.8	1	Excluded
00 City	1.8	3	2	Individualistic
05 't Getfert	2.4	3.2	2	Individualistic
42 Roombeek/Roomveldje	2.6	3.2	2	Individualistic
07 Horstlanden/Stadsweide	2.2	3.4	2	Individualistic
02 Laares	2.4	3	2	Individualistic
01 Lasonder/'t Zeggelt	2.6	3	2	Individualistic
84 Oikos	2.8	3	2	Individualistic
10 Velde/Lindenhof	3	2	3	Strong cohesion but not link outside
83 de Eekmaat	3.2	2.8	3	Strong cohesion but not link outside
82 Schipholt/Glanermaten	3.2	2.8	3	Strong cohesion but not link outside
25 Elferink/Heuwkamp	3	2.8	3	Strong cohesion but not link outside
50 Schreurserve	3.2	2.8	3	Strong cohesion but not link outside
45 Voortman/Amelink	3.6	2.6	3	Strong cohesion but not link outside
13 Varvik/Diekman	3	3	4	Strong cohesion at large
68 Helmerhoek-Zuid	3.2	3.2	4	Strong cohesion at large
30 Tubantia/Toekomst	3.4	3	4	Strong cohesion at large
88 Eekmaat west	3	3.6	4	Strong cohesion at large
40 Walhof/Roessingh	3.4	3.4	4	Strong cohesion at large
80 Glanerveld	3.4	3.2	4	Strong cohesion at large
67 Helmerhoek-Noord	3.2	3.6	4	Strong cohesion at large
28 Ruwenbos	3	3.8	4	Strong cohesion at large
81 Bentveld/Bultserve	3.4	3.6	4	Strong cohesion at large
62 Stroinkslanden NW	4	3.6	4	Strong cohesion at large
52 Park Stokhorst	3.6	3.8	4	Strong cohesion at large
60 Stroinkslanden NO	3.6	4	4	Strong cohesion at large
27 't Zwering	3.2	4	4	Strong cohesion at large
12 Hogeland-Zuid	4.2	3.6	4	Strong cohesion at large
11 Wooldrik	4	4	4	Strong cohesion at large
91 Dorp Boekelo	4.2	4	4	Strong cohesion at large
90 Dorp Lonneker	4.4	3.8	4	Strong cohesion at large
41 Bolhaar	4.2	4.2	4	Strong cohesion at large
53 't Stokhorst	4.2	4.4	4	Strong cohesion at large

Appendix H: List of interviewees

1. Drs. Joke Grooters, Programma Coordinator of KennisInstituut Stadelijke Samenleving
2. Dr. Karien Dekker, Assistant Professor, Department of Sociology/ICS, Utrecht University
3. Prof. Dr. Bas Denters, School for Management and Governance, University of Twente
4. Mr. Albert Fransen, Stadsdeelmanager Enschede Oost
5. Mr. Albert Bootsma, Stadsdeelmanager Enschede Centrum
6. Ms. Marieke Wichern, Senior medewerker, Stadsdeelmanagement Centrum
7. Drs. Arent de Haan, Senior informatiedeskundige, I&O Research, Enschede