

# *CITIZEN PARTICIPATION CONTRIBUTING TO HEALTHY LIVING ENVIRONMENTS*

*AN ANALYSIS OF THE CONTRIBUTION OF CITIZEN PARTICIPATION CONCERNING PHYSICAL INTERVENTIONS FOR HEALTHY LIVING ENVIRONMENTS IN VULNERABLE DUTCH NEIGHBOURHOODS*



# Colophon

## General information

Programme: MSc Landscape Architecture and Spatial Planning  
Specialisation: Spatial Planning  
Course code: LUP-80436 MSc Thesis Land Use Planning  
Credits: 36 ECT  
Submission date: 24.08.2018  
Author: C.H. van der Woerd  
Registration number: 940130968010  
Email: deanne.vanderwoerd@wur.nl  
Telephone: 0630866307

---

### Supervisor

Dr. ir. W.G.M. van der Knaap  
Assistant Professor  
Land Use Planning group  
Wageningen University and Research

### Second reviewer

Dr. ir. G.J. Carsjens  
Assistant Professor  
Land Use Planning group  
Wageningen University and Research

### External supervisor

Royal HaskoningDHV  
Guided by: Jos Schild



Source picture front page: <http://www.hartvannederland.nl/tag/achterstandswijk>

# Abstract

## **“CITIZEN PARTICIPATION CONTRIBUTING TO HEALTHY LIVING ENVIRONMENTS”**

*“An analysis of the contribution of citizen participation concerning physical interventions for healthy living environments in vulnerable Dutch neighbourhoods”*

*C.H. van der Woerd*

---

*The physical environment has been emphasized as an important determinant of health in scientific papers and citizen participation has been mentioned as a stimulating factor towards a healthy living environment. Since the health quality in vulnerable neighbourhoods is below average and the socioeconomic status in these neighbourhoods is also below average, more knowledge about the contribution of citizen participation in physical interventions for healthy living environments in these neighbourhoods will be needed to improve the health quality. The purpose of this study is to gain more knowledge and insight in the contribution of citizen participation concerning physical interventions for healthy living environments in vulnerable Dutch neighbourhoods. This has been studied by a qualitative research with a multiple case study of three projects during the first half year of 2018. The study shows that a relatively small group of citizens has a substantial contribution in the projects, while a bigger group of citizens participates at a low level of ‘getting informed’. The results suggest that lack of representativeness and lack of governmental support in bottom-up initiatives limits positive effects on the health quality of vulnerable Dutch neighbourhoods. Practical and active participation seems to have more impact on health aspects like improvement of social interaction, behaviour and expected positive health effects of physical interventions. The author recommends customised managing of citizen participation processes related to bottom-up initiatives and to stimulate the inclusion of as many groups as possible, to enlarge citizens contribution to physical interventions and a healthy living environment.*

---

*Key words: citizen participation | health | healthy living environmental | participation process | physical interventions | social interaction | vulnerable neighbourhoods*

# *Acknowledgements*

After an intensive period of working on my graduation research, I am happy to write this note of thanks to all the people that have supported me to make this thesis possible. It has been a period of learning for me, not only by practicing in doing scientific research but I also learned more about myself and pushed boundaries; concentration, patience and scientific skills have been put to the test. Besides, I enjoyed doing research in my profession and my interests, being able to do my own thing and to challenge myself to get the best out of it. I would like to thank the people who have supported me to finish this piece of work.

In the first place, I would like to thank my supervisor W.G.M. van der Knaap for his support and feedback. We have had a good collaboration and I appreciated the time you made for me to discuss the progress of my thesis and to help me to improve my work. In addition, I am thankful for my internship at Royal HaskoningDHV, which gave me the opportunity to do a graduation internship. I would like to single out my supervisor at Royal HaskoningDHV, J. Schild. Thank you for inspiring me about healthy environments, which has given direction to my research, and thank you for useful information, contacts and feedback on my thesis.

Besides, I would like to say thanks to all the people that have put effort to get me in contact with the right projects and people. And I will also thank all the people that have made time for me and give me information and thanks to the ones that were willing to do an interview with me.

Finally, I would like to thank family and friends for supporting me during this period of mostly individual working. In particular, I will say thanks to my supportive husband. In moments of uncertainty about my thesis you could always cheer me up and expressed your faith in me.

Thank you very much, everyone!

Deanne van der Woerd

24.08.2018

# *Table of contents*

Abstract .....	III
Acknowledgements .....	IV
List of figures .....	VIII
List of tables .....	VIII
List of abbreviations.....	IX
Summary .....	X
1. Introduction.....	1
1.1. Background.....	2
1.2. Problem description .....	6
1.3. Preliminary research objective and research question.....	7
1.4. Outline.....	8
2. Theoretical Framework.....	9
2.1. Health in relation to the physical environment.....	9
2.2. Health inequalities and vulnerable neighbourhoods.....	14
2.3. Citizen participation in spatial planning .....	16
2.4. Research objective and research questions .....	24
3. Methods.....	30
3.1. Perspective of the researcher .....	30
3.2. Character of the research .....	31
3.3. Data collection.....	32

3.4.	Data analysis.....	36
3.5.	Credibility/validity strategies.....	38
3.6.	Limitations.....	39
3.7.	Ethical considerations.....	40
4.	NPD Strook (Utrecht).....	41
4.1.	Project description.....	41
4.2.	Purpose.....	43
4.3.	Process and perception.....	45
4.4.	Power.....	50
4.5.	Summary.....	53
5.	Vegetable garden 'De Waterlandjes' (Amsterdam).....	55
5.1.	Project description.....	55
5.2.	Purpose.....	57
5.3.	Process and perception.....	57
5.4.	Power.....	62
5.5.	Summary.....	64
6.	Renewal Eendrachtsplein (Amsterdam).....	66
6.1.	Project description.....	66
6.2.	Purpose.....	68
6.3.	Process and perception.....	69
6.4.	Power.....	74
6.5.	Summary.....	76
7.	Discussion.....	77
7.1.	Comparison cases.....	77

7.2. Purpose.....	80
7.3. Process and perception .....	81
7.4. Power.....	89
8. Conclusion.....	93
Bibliography.....	97
Appendix 1.....	106
Appendix 2.....	108
Appendix 3.....	109
Appendix 4.....	111
Appendix 5.....	113
Appendix 6.....	114

## *List of figures*

Figure 1: Relations healthy living environment .....	2
Figure 2: The health map (Barton & Grant, 2006) .....	10
Figure 3: Ladder of participation (Arnstein, 1969).....	19
Figure 4: Conceptual framework.....	27
Figure 5: Overview case 1, Utrecht .....	42
Figure 6: Project area case 1, NPD Strook.....	42
Figure 7: Building blocks NPD Strook (Gemeente Utrecht, 2017) .....	42
Figure 8: Timeline, participation during project phases .....	46
Figure 9: Overview case 2, Amsterdam.....	56
Figure 10: Project area case 2: De Waterlandjes .....	56
Figure 11: Overview case 3, Amsterdam.....	67
Figure 12: Project area case 3: Eendrachtspark.....	67

## *List of tables*

Table 1: Coding interviews .....	37
Table 2: Perception of respondents about their participation NPD Strook.....	48
Table 3: Perception of respondents about their participation 'De Waterlandjes'.....	60
Table 4: Perception of respondents about their participation Renewal Eendrachtsplein .....	72
Table 5: Comparison cases .....	78

# *List of abbreviations*

NPD	Nederlandse pakketdienst (Dutch packet service)
RIVM	Rijksinstituut voor Volksgezondheid en Milieu (National Institute for Health and Environment)
SES	Socioeconomic status
SPvE	Stedenbouwkundig Programma van Eisen (Urban Development Program of Requirements)
UPP	Utrechts Planproces (Utrecht Planning Process)
WHO	World Health Organization

# Summary

Cities are known as unhealthy places to live, yet many people live cities. Several scientific papers and studies show that the physical environment plays an important role in health and wellbeing of people. In addition, participation has been mentioned by several scientists as a valuable link between spatial planning and a healthy living environment. Citizen participation can take care of local knowledge and lessons. Besides, it can enhance support and trust which enlarges the chance of successful implementation of interventions. In addition, citizen participation influences social interaction, with positive effects on residents' health.

In particular, vulnerable neighbourhoods are known for its low physical environmental quality and bad health quality. Besides the SES in vulnerable neighbourhoods is on average low, which means low educated people and low income compared with other neighbourhoods. Managing health inequalities seems to be a challenge for public health governance. Besides, the characteristics of vulnerable neighbourhoods and its residents could ask for adjusted participation approaches.

To gain more recent and specific knowledge about citizen participation in physical interventions for health improvement in vulnerable Dutch neighbourhoods the following research question has been formulated: *How does citizen participation concerning physical interventions contribute to healthy living environments in vulnerable Dutch neighbourhoods?*

Based on scientific literature, this main question has been divided into 4 sub-questions in which the purpose, process, perception and power are central. Important scientific theories that have been used to give direction to the research are: the health map van Barton and Grant (2006), the participation ladder by Arnstein (1969), and the evaluation criteria by Rowe and Frewer (2000).

To answer the research question, a qualitative research has been conducted by means of a multiple case study research. Three projects with physical interventions for a healthy living environment have been chosen; 1) The NPD strook: a housing project in the centre of the neighbourhood Overvecht, 2) Vegetable garden De Waterlandjes: residents of the neighbourhood started and maintain a vegetable garden, 3) Renewal Eendrachtspark: a bottom-up initiative in which residents have been given the responsibility to create a design together to make the Eendrachtspark safer, more attractive and inviting to exercise.

In each project, the project manager or the initiator has been interviewed, in addition some participating citizens of each project have been interviewed (2-3 citizens per project). In addition, desk research and an observation of a residents' meeting have been used for data-gathering. The results have been elaborated per project and have been compared with each other.

The differences between the projects, such as size, bottom-up or top-down, and time-span, make it difficult to draw conclusions, yet the differences have also ensured some interesting results.

The study shows that a relatively small group of citizens has a substantial contribution in the project, while a bigger group of citizens only participates at a low level of getting informed. The results suggest that lack of representativeness and lack of governmental support in bottom-up initiatives limits positive effects on the health quality of vulnerable Dutch neighbourhoods. Practical and active participation seems to have more impact on health aspects like improvement of social interaction, behaviour and expected positive health effects of physical interventions.

The author recommends customized managing of citizen participation processes for bottom-up initiatives and to stimulate the inclusion of as many groups as possible, to enlarge citizens contribution to physical interventions and a healthy living environment.

Further research to the role of local governments in bottom-up initiatives is needed. Besides, it would be interesting to expand the research by also focussing on residents in the concerning neighbourhood that have not participated in the project; this will possibly shed a new light on this topic.

# *1. Introduction*

Since a long time cities are known to be the centre of innovation and wealth and welfare, yet they are also often unhealthy places to live. Cities are a main source of pollution and disease and can be characterized by heavy traffic, noise, violence and social isolation (Nieuwenhuijsen, 2016). Due to the exponential increase of people living in cities, several scientists emphasize the importance of good governance in relation to environmental conditions (Burriss et al, 2007; Corburn & Cohen, 2012; Silva, 2015). Environmental conditions have an immediate effect on the quality of people's live. Environmental conditions can be managed by the physical environment. The physical environment has been mentioned as an important determinant of health and well-being (Pilkington et al, 2016; WHO, 2006; Barton & Grant, 2006).

Good health is a great asset, for both individual citizens and society. According to Platform31 (2018), Healthy citizens participate more, are more self-reliant, make less use of alimony and make a greater contribution to the economy. The Dutch population is achieving a higher life expectancy and enjoy increasingly more years in good health. However, health is not evenly distributed among all citizens. Mainly due to environmental conditions and socioeconomic status, substantial health inequalities are present among the Dutch population. (Platform31, 2018)

In relation to well managing of urban areas, it has been suggested by Reed et al (2017), Berkes et al (2009) and de Vente et al (2016) that participatory approaches to address environmental challenges have positive effects on environmental quality. Participatory approaches have the ability to build trust, to reduce conflicts, to add relevant knowledge and to facilitate social learning among publics (Reed et al, 2017; Berkes et al, 2009; de Vente et al, 2016). To that respect, participatory approaches can stimulate environmental quality and health related aspects (Corburn, 2004). According to Pohjola and Tumisto (2011), public participation is important since the environment is related to multiple interests like political, societal, economic and public concerns. When cases are directly or indirectly related to human health and well-being, the concerns often become very personal which makes public participation even more important for both the planner and the public (Pohjola & Tumisto, 2011).

*Summarized: The physical environment plays an important role towards healthy living environments with public participation as an important stimulating factor (visualized in Figure 1).*



Figure 1: Relations healthy living environment

## 1.1. Background

### *Health and the physical environment*

According to Pilkington et al (2016), it is widely accepted that the physical environment plays an important role in health and well-being. Since the last two decades, public health communities have increased attention for several determinants of health, including the physical environment (Pilkington et al, 2016). A series of reports and papers emphasized the importance of reconnecting city planning and public health (Carmichael et al, 2012; Corburn, 2004; Barton & Grant, 2013; Rydin, et al, 2012; World Health Organization, 2011).

In addition, according to the RIVM (2017), the public space forms the most important environmental aspect of the physical environment, including the availability of facilities, water and green. Public space can be defined by all the public freely accessible spaces like streets, squares, parks, parking lots, public buildings, shopping centres and sport fields. Good quality of the construction of public space will have positive influence on human's health (Alphen et al, 2017).

As mentioned by Barton and Grant (2013), urban planning is more than creating a beautiful and well-functioning living environment and facilitating economic development and sustainability. But, urban planning is also about human health, and creating living environments with good opportunities for people to stimulate the quality of life. This idea follows logically from the definition for health used by the World Health Organization (WHO) in its constitution of 1948 (WHO, p.1):

*“Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being, without distinction of race, religion, political belief, economic or social condition.”*

Since urban planning is also about human health, planning is an important aspect of the Healthy Cities project. The Healthy Cities project is an initiative of the European WHO since 1986 to promote environmental health and healthy lifestyles by encouraging governments to include health issues and health concerns in public policy in several ways (Doornis & Heritage, 2013). As defined by WHO (2006), environmental health contains all the physical, chemical and biological factors external to a person, including all the related factors influencing behaviours. Environmental health also refers to assessing, correcting, controlling and preventing environmental factors that may affect the health of people, now and in the future (WHO, 2006).

Over the years, various national governments have joined the Healthy Cities project in which health promotion is understood as part of spatial planning (Barton & Tsourou, 2000). Barton and Grant (2013) have evaluated how the significance of planning for health is perceived in the Healthy Cities Approach, which is part of the Healthy Cities Project. They concluded that the Healthy Cities Approach can be effective in promoting the collaboration and link between of health and planning disciplines. However, many cities around the world are still struggling to make planning towards health and well-being a fundamental purpose of spatial plans at all levels of governance. (Barton & Grant, 2013). This fundamental purpose of plans requires effective collaboration between departments and public participation (Barton & Grant, 2013). In line with the importance of linking health and spatial planning, this study is focussed on physical interventions that are related to environmental health.

*Summarized: Health is closely related to the physical environment and is therefore an important aspect of spatial planning.*

### *Participation and health*

Two core principles of the Healthy Cities Project are community participation and empowerment (Doornis & Heritage, 2013). Following the World Health Organization, health promotion is dependent on concrete and effective community action in making decisions, setting priorities, planning strategies and implementing those (Doornis & Heritage, 2013). In addition to the mentioned core principles (community participation and empowerment) of the Healthy Cities Project, participation of locals is mentioned as an important aspect of planning for healthy environments in several scientific papers and books (Corburn, 2002; Corburn, 2017; Fisher, 2000; Heiman, 1997).

Research and decision making in planning and public health are criticized by several scientists (Pilkington et al, 2016; Corburn, 2004; Newig, 2007; de Vente et al, 2016) for relying mainly on professional knowledge at the expense of public participation. Previous studies show increasing evidence for the importance of contextual information and experiences and knowledge offered by lay publics (Fisher, 2000; Corburn, 2002; Heiman, 1997). It has been suggested that participatory approaches to address environmental challenges have the ability to build trust, to reduce conflict and to facilitate social learning among publics (Reed et al, 2017; Berkes et al, 2009; de Vente et al, 2016). In addition, by giving people more control over their own lives and environment they will become more concerned and involved in developments in their neighbourhood, and it stimulates contact with neighbours which has been positively associated with health (Doornis & Heritage, 2013)

According to Corburn (2004), successfully reconnecting planning and public health requires a combination of professional knowledge and practical experience of the public. Mentioned by Pohjola and Tumisto (2011), public participation is important since the environment is related to multiple interests like political, societal, economic and public concerns. When cases are directly or indirectly related to human health and well-being, the concerns often become very personal which makes participation of the public even more important for both the planner and the public (Pohjola & Tumisto, 2011). In line with this idea, Corburn (2005) focusses in his book '*Street Science: Community Knowledge and Environmental Health Justice*' on how citizens' understandings and actions can influence the environmental health policies and decisions. He emphasizes the importance of citizens' knowledge in planning and making environmental decisions. According to Corburn (2005) local knowledge helps to discover problems that professionals may have overlooked, it fills data gaps, expands the scope of implementation and stimulates the process by improving trust and credibility.

*Summarized: Participation of potentially affected or interested local citizens can stimulate and improve health results in environmental projects.*

### *Health inequalities*

The health quality of the environment differs among countries but also within countries or even within cities difference of environmental health can be distinguished (Rydin et al, 2012). In literature, two explanations for spatial health inequalities are mentioned:

- 1) Differences in health quality between citizens of different areas can be ascribed to different composition of the residents in neighbourhoods in relation to socioeconomic status or health-related behaviours (Verweij, 2008; Meyer et al, 2014; Flacke et al, 2016).
- 2) Spatial differences in health can be related to characteristics of the built environment (Flacke et al, 2016).

These two explanations are closely connected.

Mentioned in the report *Hidden Cities* (WHO & UN Habitat, 2010) whether one benefits from city living depends on the location in the city and how the city is governed. Within a city, spatial differences can be distinguished due to environmental conditions, these differences in which people live and grow contribute to health inequalities within cities (Flacke et al, 2016). Rich and poor populations live in very different health circumstance even within the same city; this applies to both high-income and low-income countries (Rydin et al, 2012). Most cities include one or more neighbourhoods with substandard qualities in terms of physical, environmental and social quality compared to other neighbourhoods of the city. These neighbourhoods are known as deprived neighbourhoods or vulnerable neighbourhoods (Andersen, 2010). This thesis will make use of the term vulnerable neighbourhoods.

Several studies have investigated the relation between socioeconomic characteristics and health inequalities (Mitchell & Popham, 2008; Mackenbach et al, 2003; Wilkinson & Pickett, 2008; Jerret et al, 2004). On average, the socioeconomic status of vulnerable Dutch neighbourhoods is lower than other neighbourhoods in the Netherlands. Socioeconomic status is here related to income and level of education (Verweij, 2008).

The unequal distribution of health and well-being in national populations turns out to be a major challenge for public health governance. Sociodemographic and economic determinants ensures differences in environmental health conditions and exposure to environmental risks. (WHO, 2012).

The improvement and development of the liveability of Dutch neighbourhoods that have been labelled, in this century by the national government, as vulnerable or problematic, has stagnated or even deteriorated in some cases since 2012 (Uyterlinde & van der Velden, 2017). According to Uyterlinde and van der Velden (2017), the economic crisis, the collapse of the housing market, the austerity of the welfare state, the decentralisation in the social domain, in combination with the termination of the neighbourhood policy have affected the quality of life in

vulnerable neighbourhoods. If concentrations of disadvantaged groups continue to increase, the limits of the capacity of these neighbourhoods will be reached.

*Summarized: health inequalities within cities can be ascribed to differences in socioeconomic status, health-related behavioural aspects, and to differences of the built environment, resulting in a challenge for public health governance.*

## 1.2. Problem description

Following from section 1.1. (Background), the scientific and social relevance can be described as follows:

### *Scientific relevance*

Although a vast amount of studies has investigated and proven the relation between spatial planning and health, health inequalities within cities, and the importance of public participation for healthy environments, yet, the combination of health inequalities and public participation for healthy environments has slightly been discussed in previous literature and no specific examples about citizen participation in vulnerable neighbourhoods in the Netherlands could be found. Specific knowledge about citizen participation in vulnerable Dutch neighbourhoods can be interesting since it has been mentioned that the socioeconomic status of vulnerable Dutch neighbourhoods is on average lower than other neighbourhoods in the Netherlands (Verweij, 2008), which might ask for adapted approaches for participation.

In addition, it has been concluded that the unequal distribution of health and well-being within countries, and even within cities, turns out to be a great challenge for managing public health (WHO, 2012), while at the same time health promotion is dependent on concrete and effective collaborative action when it comes to decision-making, setting priorities, planning strategies and implementing those (Doornis & Heritage, 2013). Therefore, more scientific knowledge about the contribution of citizen participation to environmental health in vulnerable neighbourhoods will be relevant in relation to public health governance.

### *Social relevance*

Focussing on citizen participation for healthy living environments in vulnerable neighbourhoods is socially relevant since vulnerable neighbourhoods have substandard qualities in terms of physical, environmental and social quality in relation to other neighbourhoods (Andersen, 2010). The improvement and development of the liveability of Dutch neighbourhoods that have been labelled, in this century by the national government, as vulnerable or problematic, has stagnated or even deteriorated in some cases since 2012 (Uyterlinde & van der Velden, 2017). The urgency for improving health in these neighbourhoods is therefore of great importance, and more current knowledge can contribute to this. In addition, citizen participation leads to more concerned and involved people, and it stimulates contact with neighbours which has been positively associated with health (Doornis & Heritage, 2013). Furthermore, participation of citizens in spatial projects in their own neighbourhood could identify needs, to increase the feeling of ownership and it even might indirectly reduce maintenance because of increased concern and commitment to their own living environment (WHO, 2010).

More knowledge about the contribution of citizen participation towards a healthy living environment can contribute to improvement of citizen participation, and is therefore socially relevant.

## **1.3. Preliminary research objective and research question**

Following from section 1.1. (Background) and the related relevance in 1.2. (Problem description), the preliminary research objective and research question will be outlined. This study has been demarcated by focussing on vulnerable neighbourhoods in the Netherlands in 2018 and builds on previous studies by analysing the contribution of citizen participation in physical interventions to promote healthy living environments.

The preliminary research objective of this research is *to further analyse the contribution of citizen participation concerning physical interventions to healthy living environments in vulnerable Dutch neighbourhoods.*

The preliminary research question of this research can be formulated as follows: *How does citizen participation concerning physical interventions contribute to healthy living environments in vulnerable Dutch neighbourhoods?*

After the theoretical framework, the preliminary research objective and research question will be adjusted in line with the discussed theories. Besides, the research question will be elaborated by sub questions.

## 1.4. Outline

Chapter 1 has introduced the subject of this thesis followed by some background information, the problem description and the corresponding preliminary research objective and preliminary research question. In chapter 2 the theoretical framework of the research will be discussed. Chapter 3 is about the methods that have been used for this research and the problems met during the process. Chapter 4, 5 and 6 present the results of the case studies respectively: 4. NPD Strook, 5. Vegetable garden 'De Waterlandjes' and 6. Renewal Eendrachtsplein. In chapter 7 the results of the case studies are discussed by the means of the scientific objective and research questions and in the light of the theoretical framework. Finally, chapter 8 will present the conclusion; this chapter brings together the most important results of the research. In addition, the bibliography and the appendices can be found in the back of this report.

## *2. Theoretical Framework*

This part of the thesis will elaborate the theoretical framework for the research to frame the study by explaining phenomena that are important to this research. The focus points introduced in section 1.1. Background will be elaborated more by theoretical concepts, and relevant literature in relation to the research will be discussed.

Firstly, health will be discussed in relation to the physical environment, to explain the basis on which the research is build. Secondly, health inequalities and the relation to vulnerable neighbourhoods will be discussed; this section clarifies and elaborates the focus on vulnerable neighbourhoods. Finally, citizen participation will be discussed in relation to the previous concepts, and some relevant theories for analysing citizen participation will be discussed.

### **2.1. Health in relation to the physical environment**

A combination of many factors affects individuals' and communities' health. Factors such as where people live, the state of the environment, genetics, level of education, income and relationships with friends and family influences human health to a large extent (WHO, 2018).

For a long time, the environment has been acknowledged an important determinant of health. According to Lawlor et al (2003), health promotion by only programs of changing the behaviour of people or groups, is not very effective since the population that will be reached is limited and it rarely maintained over time. But the profound effect of spatial planning in towns and cities on the risks and challenges to population health is evidence based (Braubach & Grant, 2010). Inspired by Whitehead and Dahlgren's figure of determinants of health, Barton and Grant (2006) developed a settlement health map (**Fout! Verwijzingsbron niet gevonden.**). This health map was developed for the WHO-sponsored practice guide 'Shaping Neighbourhoods', showing the various determinants in social and economic life and the physical and global environment with impact on human health. All the different spheres are interacting and affecting each other (Barton & Grant, 2011).

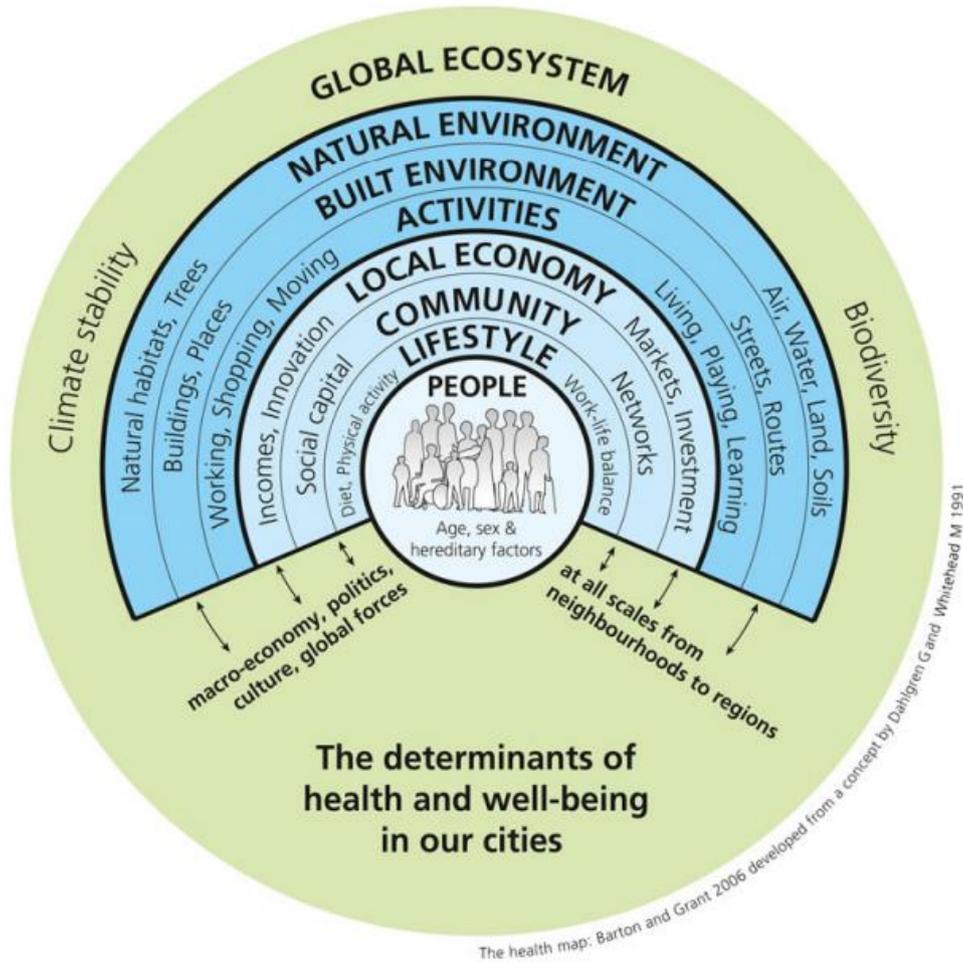


Figure 2: The health map (Barton & Grant, 2006)

At the centre of the health map are people, they are the reason for settlements. Around people, several spheres are created like lifestyle, community, local economy, activities, built environment, natural environment and the global ecosystem. All the different spheres are interacting and influencing each other. In sequence, all the different spheres affect the health and well-being of people. (WHO, 2010)

As mentioned by the WHO (in Braubach & Grant, 2010, p.26), the risks and challenges to health can be understood as *“being woven into the very fabric of our towns and cities; the way we plan, design and manage the territory of places, spaces, facilities and buildings of our urban habitat impacts on health from both a positive and negative perspective”*. This statement emphasizes the importance of spatial planning and the physical environment in relation to health.

Several studies show evidence for the impact of the physical environment on human's health; many aspects of the physical environment that influence human's health have been discussed in scientific papers (Di Nardo et al, 2010; Lee et al, 2015; Wolch et al, 2014; WHO, 2010; Frumkin, 2003). Since the physical environment has been mentioned as an important determinant of health, this study will be framed by focussing on the physical environment. As shown in the health map (Figure 2), the natural environment and the built environment includes the physical environment (natural habitats, trees, air, water, land, soils, buildings, places, streets and routes). In this research, the physical environment relates to the presence and proximity of health relevant resources such as parks, food stores, recreational resources, and to how neighbourhoods are designed and built (Woolf & Aron, 2013). The natural environment and built environment have influences on activities and the inner spheres like local economy, community and lifestyle (Figure 2) and as a result influences on health and wellbeing (Barton & Grant, 2006).

Some frequently discussed aspects of the physical environment in relation to healthy living environments will be discussed into more detail: green space, sport facilities, transport systems and land use patterns.

### *Green space*

One important aspect of the physical environment, which can be related to the built environment and the natural environment (Figure 2), with influences on human's health is related to green space and contact with nature (Mitchell & Popham, 2008). Public green space comprises areas such as public parks, nature areas, sports fields, natural water sources, community gardens and trees along the street (Wolch et al, 2014).

Presence or proximity of these green spaces in neighbourhoods provides opportunities for physical activities, social contacts and relaxation, which has been related to resident's health (van den Berg, 2015).

According to Di Nardo et al (2010), people living in green environments are healthier and live longer. Public parks, forests, countryside and tree lined streets can improve residents' health and reduce diseases (Lee et al, 2015). Green spaces contribute to facilitate active lifestyles in urban environments; people living closer to public green spaces seem to be more physically active (like walking, jogging and cycling) and are less likely to have overweight, which helps to combat rising levels of diseases like diabetes or heart disease (Coombes et al, 2010). In this way, the natural and built environment also influences other spheres like activities and lifestyle (Figure 2). In addition, living in natural environments and green spaces has positive effects on depressions, recovery from chronic stress, concentration and mental health (Bowler et al, 2010; Di Nardo et al, 2010; Lachowycz and Jones, 2011; Lee et al, 2015).

The positive effects of green space on mental health and wellbeing could also assign to participation in activities organised in these spaces, which takes care of social interaction. Social interaction and physical activities can also ensure alleviation of stress and anxiety, and it can positively influence mood and attention. Social contact, stimulated by green space, could help to reduce social isolation, to generate social capital, and it can lead to increasing personal resilience and wellbeing (Lee et al, 2015). This social contact, stimulated by the physical environment relates to the sphere of community in Figure 2.

Next to the effect of green space on human well-being, the environment also benefits from green space. Urban green space minimizes air, water and noise pollution, it can compensate greenhouse gas emissions by absorption of CO<sub>2</sub>, and it can even provide food (Lee et al, 2015). Green spaces can also reduce temperatures by providing shade; as a result, it can help to reduce risks of heat-related illness for residents (Wolch et al, 2014). Therefore, the physical environment also influences the outer spheres shown in Figure 2; the natural environment and global ecosystem.

### *Sport facilities*

Besides the stimulating effects of green spaces like parks to get physically active, there are also other sport facilities that will stimulate a healthy lifestyle by physical activity (Figure 2). For example, paths and slopes are perceived as positive in relation to health because they increase the training intensity of residents, according to a study by van Hecke et al (2016). In addition, playgrounds and sport fields are considered attractive features for residents to visit and be active. Other objects that have been mentioned by van Hecke et al (2016) in relation to positive effects on physical activity are swings, slides, sandpits and wooden constructions for children. In other words, sport facilities in the neighbourhood support a healthy lifestyle (Suomi & Kotthaus, 2017). According to van Hecke et al (2016),

people with low SES have less opportunities to be active because of fewer recreational resources in the neighbourhood and they are less frequently a member of a sports club.

The Dutch government wants to provide sport facilities in the neighbourhood to make it easier for people to create an active and healthy lifestyle. For example, cycle paths, footpaths, playing fields and playgrounds stimulates outdoor activities and makes it safer. Municipal authorities are responsible for the realisation and maintenance of these facilities and ensuring that they are accessible and safe. (Government of the Netherlands, 2018)

### *Transport systems & land use patterns*

Another aspect of spatial planning with influences on residents' health is land use patterns which is closely related to transportation networks and patterns of movement (Rydin et al, 2012). According to WHO (2010), land use patterns can be described by the density, disposition and nature of different land uses. Land use patterns, at the level of neighbourhoods, include housing, retail, offices and recreational areas (TRB, 2005). These variables of land use patterns determine movements and activities of residents. Transport can be described by all movements and infrastructure that provides that movement, such as roads, rails, cycling paths and walking paths. The transport networks and the land use patterns are interdependent. Transport networks influence accessibility patterns, which subsequently determine where land use development occurs. The other way around, land use patterns influences patterns of movement, which influences demand for transport opportunities. (WHO, 2010)

The impact of transport on physical activity is mainly determined by modal choice. Modal choice is highly dependent on distance and route quality to the desired destination (TRB, 2005). Since public transportation is generally accessed by foot, use of this transport model contributes to physical activity. The distance that must be travelled for activities of daily living influences the choice for active transport like walking and cycling or motorised transport (WHO, 2010). In addition, when access routes are poorly designed, hard to access, unsafe or poorly maintained these can also create barriers to the use of active transport.

It can be concluded that transport systems and land use patterns have influence on several spheres of the health map in [Figure 2](#), like activities, community, and lifestyle. These public spaces of transport infrastructure and different land uses can be influenced by urban planning and management (Rydin et al, 2012). According to Sallis et al (2012), increased evidence has shown how the built environment can support active transportation.

*Summarized: The physical environment is a key determinant of health with also influences on other determinants like activities, lifestyle and community.*

## 2.2. Health inequalities and vulnerable neighbourhoods

Health inequalities can be distinguished when comparing different geographical areas. Most countries have relatively poor urban areas with several health-related problems like unemployment, high crime rates, low sense of security and neighbourhood decay (Fröding, 2011). As mentioned by Rydin et al (2012), rich and poor live in very different health circumstances; this occurs also within cities in both high- and low-income countries.

Acknowledged in the report *Hidden Cities* (World Health Organization & UN Habitat, 2010) whether one benefits from city living depends on where in a city you live and how the city is governed. Within a city, spatial differences can be distinguished resulting from environmental conditions. Different environmental conditions in which people live and grow contribute to health inequalities within cities (Flacke et al, 2016). Most cities include one or more neighbourhoods with qualities below average in terms of physical, environmental and social quality, compared to other neighbourhoods of the city. These neighbourhoods are known as vulnerable neighbourhoods (Andersen, 2010). Vulnerable neighbourhoods are related to low SES (Socioeconomic status) and poor environmental conditions in relation to other parts of the city (Verweij, 2008; van Nes & Lopez, 2013; Feldman & Steptoe, 2004; van Sparrentak, 2014).

Different settings in people's lives have impact on their health and well-being. The neighbourhood is one important setting since it is the basis and resource for daily life. This means that a neighbourhood can affect human's lifestyle and health behaviour; either in a protective and supportive or in a harmful and disadvantaging way. (Fröding, 2011)

There are different ideas about the impact of neighbourhood effects on poverty and quality of health. However, according to Fröding (2011), there seems to be agreement among scientists that social interaction is an important determinant of health within the neighbourhood setting. Social interaction patterns are linked to factors like norms and values, social capital and social participation. Within a neighbourhood these patterns of social interaction can influence residents' possibilities for healthy living (Sallis et al, 2012). Social norms, values and traditions can be determined by the socioeconomic environment of the neighbourhood; this can influence health-related behaviours (lifestyle in [Figure 2](#)) and social (community in [Figure 2](#)) and economic trajectories (local economy in [Figure 2](#)) of residents. The social composition of a neighbourhood can directly influence the mental well-being of citizens, because feelings of inferiority, lack of social support, stigma, disorder and crime seems to be more common in most vulnerable neighbourhoods. (Rocha et al, 2017)

Several studies have investigated the relation between socioeconomic characteristics and health inequalities (Mitchell & Popham, 2008; Wilkinson & Pickett, 2008; Jerret et al, 2004). According to Meyer et al (2014), it is well known that SES is related to health, morbidity and mortality and that SES is one of the most influential determinants of health. According to Feldman and Steptoe (2004), lower SES can be related to vulnerable neighbourhoods and individual deprivation. Neighbourhoods with lower SES are also associated with reporting poorer self-rated health, poorer respiratory function, more chronic conditions, and more coronary risk factors (Feldman & Steptoe, 2004). people with low SES have less opportunities to be active because of fewer recreational resources in the neighbourhood and they are less frequently a member of a sports club (van Hecke et al, 2016).

Although, over the last decades research and policies have increased attention for health inequalities, previous research by Mackenbach et al (2015; 2016) has shown increased socioeconomic health inequalities. Other health determinants related to the neighbourhood that may contribute to health inequalities are gender, age, ethnicity, and spend time within a specific neighbourhood (Sallis et al, 2012).

The unequal distribution of health and well-being in countries and cities, turns out to be a major challenge for public health governance. Sociodemographic and economic determinants ensure inequalities in environmental health conditions and exposure to environmental risks (World Health Organization, 2012).

Since the health quality of residents in vulnerable neighbourhoods turns out to be lower than the health of other neighbourhoods (Verweij, 2008; van Nes & Lopez, 2013; Feldman & Steptoe, 2004; van Sparrentak, 2014), this research will focus on vulnerable neighbourhoods. In addition, socioeconomic characteristics, behaviours and environmental aspects with health effects, seem to be different in vulnerable neighbourhoods (Sallis et al, 2012; World Health Organization, 2012; Feldman & Steptoe, 2004; Rocha et al, 2017). Focussing on vulnerable neighbourhoods might help to specify knowledge about citizen participation related to health promoting projects. Since the quality of vulnerable neighbourhoods differ among countries, this study is specifically focussed on vulnerable neighbourhoods in the Netherlands.

*Summarized: Residents in vulnerable neighbourhoods have on average low SES and qualities below average in terms of physical, environmental and social quality with negative effects on health quality.*

## 2.3. Citizen participation in spatial planning

### *Reasons and motives for participation*

According to Bizjak (2012), spatial planning cannot solely be understood as a technical process of professionals. Spatial planning has also a strong political character; interests of politics, capital and involved parties with their own wishes and ideas are factors that play an important role. As stated by Pogacnik (in Bizjak, 2012, p. 113) *"We are trying to include the public in the spatial-planning process as much as possible. The public is the 'consumer' of our work because people will live in the cities we plan"*. According to Bizjak (2012), public participation should be approached as part of a democratic process, when spatial planning is a political decision for the future of a population.

Besides the democratic argument, it has been suggested that participatory approaches to address environmental challenges have the ability to build trust, to reduce conflict and to facilitate learning among publics (Reed et al, 2017; Berkes et al, 2009; de Vente et al, 2016). However, according to Reed et al (2017), there are also many examples of participatory approaches in environmental projects that have failed in delivering desired beneficial physical environmental or social outcomes. Several studies have emphasized that the outcomes of participatory processes are dependent on local context (e.g. Stringer et al, 2007; Blicharska et al, 2011 in Reed et al, 2017). The results of participatory processes in environmental projects like strategies, plans, social learning or physical interventions of solutions are highly dependent on the process design, and the socio-cultural, institutional and environmental context of the implementation (de Vente et al, 2016; Reed et al, 2017). Therefore, participation is not a technical process that can be copied and implemented independently of context. Besides, participation processes and their outcomes are also highly dependent on the selected participants (Fröding, 2011; Reed et al, 2017).

Another important motive for citizen participation is that it may enhance possibilities to make effective and efficient area-based programmes, and it increases the chances for successful implementations. From this point of view, the residents of the neighbourhood can decide and suggest their own needs (Corburn, 2005). According to Corburn (2005) local knowledge helps to discover problems that professionals may have overlooked, it fills data gaps, expands the scope of implementation and stimulates the process by improving trust and credibility.

However, there are also other opinions about public participation, because the participation of many citizens does not guarantee the quality and efficiency of participation, difficulties of creating a representative group of participants and the time-consuming process (Fröding, 2011).

Three important factors of individuals for citizen participation in neighbourhood development can be distinguished: socio-demographic and economic background, behaviour, and perceptions (Matarrita-Cascante & Luloff, 2008). Mentioned in several scientific articles, residents with a strong socioeconomic background are more likely to participate in neighbourhood development, in relation to those who are not as well off (Agger & Larsen, 2009; Matarrita-Cascante & Luloff, 2008). According to Matarrita-Cascante and Luloff (2008) and Lancee and van de Werfhorst (2012), educational level and income seem to be predictive factors for participation. People's behaviour can also have impact on their participation. People who frequently talk with neighbours and people that already take part in other local activities are more likely than others to participate in neighbourhood development. In addition, when people are living in one neighbourhood for a longer time, they are more likely to participate (Matarrita-Cascante & Luloff, 2008). And finally, according to Foster-Fishman et al (2009), citizens are more likely to participate when they think or know that others will participate.

#### *Citizen participation and health*

There are many strategies to promote residents' health in neighbourhoods. For public health interventions, neighbourhood development is one strategy to promote public health and reducing health inequalities by participation of citizens (Fröding, 2011). The use of citizen participation in decision-making, planning and in the implementation for neighbourhood development has positive effects from several points of view.

One important effect, from the point of view of individual health, is the vitality and activity of participation in neighbourhood development, and social interaction with other people may have positive effects on physical, mental, and self-reported health (Berkman & Glass, 2000). When social interaction takes place and experiences and ideas are shared with others, social learning occurs as a process of iterative reflection. Before learning occurs, mutual trust is required; trust in people and especially social trust in new contacts. Social trust is about the willingness of people to let others make decisions, either citizens or initiators. When people want to cooperate and work towards a common solution social trust can be high, even if people disagree. (Hurlbert & Gupta, 2015).

In addition, the empowerment of people can be an important reason for citizen participation. As defined by Laverack (2006, p 113), empowerment is a *"process by which relatively powerless people work together to increase control over events that determine their lives and health"*. Empowerment can be shaped by the implementation of citizen participation. By giving people more control over their own lives and environment they will become more concerned and involved in developments in their neighbourhood, and it stimulates contact with neighbours which has been positively associated to health (Doornis & Heritage, 2013). Furthermore, participation of citizens in spatial projects

in their own neighbourhood is a likely way to identify needs, to increase the feeling of ownership and it even might reduce maintenance costs because of increased concern and commitment to their own living environment (WHO, 2010).

### *Levels of citizen participation*

Next to the different reasons and motives of citizen participation, different levels of citizen participation can be distinguished. Over the years, several models of citizen participation have explained the relation between authorities and the public. Citizens can be involved in several ways and levels. According to Callahan (2007), consistency can be seen in the different models in the extremes. The lower levels are generally passive forms of participation, which might involve communication between authorities and the public, characterized by a top-down communication and a one-way flow of information. The higher levels, on the other hand, are more active forms of participation, they may have some degree of public input and the higher levels of participation are characterised by two-way information flows. (Rowe & Frewer, 2000; Callahan, 2007)

A well-known model and one of the earliest models of citizen participation is 'the ladder of participation' by Arnstein, (Callahan, 2007). Arnstein (1969) describes different gradients of citizen participation by making use of the metaphor of a ladder (Figure 3). The ladder consists of eight rungs, the two lowest levels are termed 'manipulation' and 'therapy', and these are forms of nonparticipation. According to Arnstein, some governmental organisations have made use of these contrived forms of participation, which are aimed at getting the citizens to accept a predetermined procedure. With 'manipulation', citizens might think they do participate, but they are only used by decision-makers by giving them the feeling of participation. 'Therapy' is described by Arnstein as decision-makers who led citizens participate in the decision-making process, but only to notify them about their own shortcomings. The first two rungs do not really aim to enable people to participate but to enable decision-makers to educate or cure the participants. (Arnstein, 1969) Rung three, four and five are respectively informing, consultation and placation, which are levels of the so called 'tokenism' that allow the have-nots to hear and to be heard, and at the level of placation to give advice. Informing and consultation gives citizens the opportunity to get informed about plans and to have a voice, though it does not guarantee that their views will be included by the powerful. Placation is a higher level of tokenism and allows citizens to advice the decision-makers. The powerholders are still the ones with the right of decision. (Arnstein, 1969)

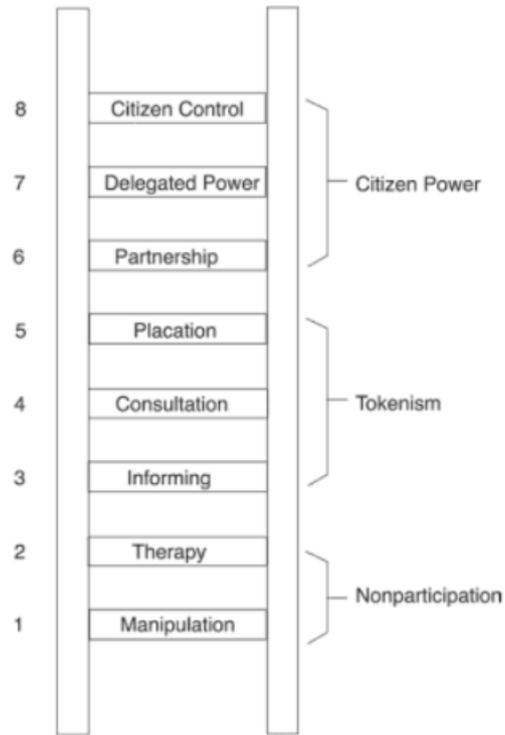


Figure 3: Ladder of participation (Arnstein, 1969)

The three highest rungs of the ladder of Arnstein, she calls citizen power. Rung six is partnership, which enables citizens to engage and negotiate in the decision-making process. The seventh rung is delegated power; at this level citizens have significant influence to assure accountability of the process. If differences occur, powerholders need to negotiate the process, instead of responding with counterarguments. The highest rung of the ladder is citizen control. At this level, people have that degree of power which gives citizens the ability to govern a program or an institution, the full charge of policy and management, and the ability to negotiate the conditions under which others can make changes. (Arnstein, 1969)

Although Arnstein's ladder (Figure 3) is one of the best-known models of citizen participation, there is also some critique on this model. According to Tritter and McCallum (2006), Arnstein's model ignores some aspects of user involvement such as method, category of user and outcome. She also excludes reasons and preconditions for involvement, the level of trust in the process, and tension between involving some citizens intensively and many people in a limited way (Tritter & McCallum, 2006). Finally, in the model of Arnstein, participation is presented as hierarchical, with citizen control as the highest achievable goal of participation. According to Collins and Ison (2009), this is not always in line with citizens own reason to engage in decision-making processes, neither should it be for authorities. Collins and Ison (2009) emphasize the importance of social learning in participation processes instead of focussing on the level of power. The ladder of Arnstein is a simplification of the levels of citizen participation, but the model can help to illustrate that there are significantly different levels of citizen participation.

### *Methods of citizen participation*

In addition to Arnstein's model of levels of participation, this research will also make use of Rowe and Frewer's (2000) theory about public participation methods, because different methods of participation have different levels of participation and they are also depended on the goal of the process. The method of citizen participation is depending on the situation; for example, decisions based on values require higher levels of involvement than more knowledge-based decisions. (Rowe & Frewer, 2000).

Many different methods are used to led citizens participate in decision-making processes. Rowe and Frewer (2000) selected some the most formalized public participation methods. One of those methods is a referendum, this method can be used to let all members of a local population vote, every participant has an equal vote and the final outcomes are binding. In addition, public hearings are used to inform the public about plans, the public may share their opinion but they have no direct impact on the plan. Another method mentioned by Rowe and Frewer (2000) is a public opinion survey, which can be used for information gathering by a large sample of representatives. Focus groups is

another method that can be used; a focus group consist of a small group of five to twelve people selected to be representative of public who go in discussion about a certain topic. This method can be used to assess opinions and attitudes of the public (Rowe & Frewer, 2000). (For additional methods and information about the methods mentioned by Rowe and Frewer see Appendix 1)

In addition to the public participation methods mentioned by Rowe and Frewer (2000), other methods such as workshops, charrettes, open houses and public meetings are also used by many governments in planning processes (Laurian, 2004; Brown, 2015; Kahila-Tani, 2016). These methods attract small groups of participants. The face-to-face character and the place and time commitment required by these methods, limits the number of participants. But these methods can be valuable during certain phases of the planning process because of the exclusivity, reacting and commenting nature of participation (Kahila-Tani, 2016).

### *Effectiveness of public participation*

Rowe and Frewer (2000) specified nine evaluation criteria for effective public participation, based on previous literature. These evaluation criteria are relevant for this research because they give the possibility to measure the presence or quality of different process aspects. More recently the evaluation framework of Rowe and Frewer has been applied successfully (Brown, 2015; Kahila-Tani, 2016) and many evaluation criteria as mentioned by Rowe and Frewer (2000) do also appear in more recent literature for public participation evaluation (Schroeter et al, 2016; Brown & Chin, 2013; Brown, 2015; Bizjak, 2012; van Beckhoven et al, 2009, Hurlbert & Gupta, 2015, Reed et al, 2017).

Rowe and Frewer (2000) divided the criteria into acceptance criteria and process criteria. Acceptance criteria are focussed on the potential acceptance of a procedure by the public. While process criteria are based on the effectiveness of the construction and implementation of the procedure.

The following acceptance criteria are mentioned by Rowe and Frewer (2000):

1. *“Criterion of representativeness: The public participants should comprise a broadly representative sample of the population of the affected public”* (Rowe & Frewer, 2000, p.12). According to Rowe and Frewer (2000), literature frequently emphasized the need for representative participants of the broader public, more recent literature still emphasizes the importance of representativeness (Bizjak, 2012; van Beckhoven et al, 2009, Hurlbert & Gupta, 2015, Reed et al, 2017). Mentioned by Rowe and Frewer (2000), the ignoring of poorer

groups or segments of society should receive more attention. Besides, the relative distribution of views should also be considered: in a small group of participants with different views, the influence of the view held by the majority can become relatively small. Although representativeness is an important criterion, implementation may be limited by practical constraints. (Rowe & Frewer, 2000)

2. *“Criterion of independence: The participation process should be conducted in an independent, unbiased way”* (Rowe & Frewer, 2000, p.13). Management of the participation process has to be unbiased, but participating public should also be independent in relation to the project developer. A steering committee or management team can be used to obtain independence. A disadvantage of this criterion could be that a steering committee or management team might drastically limit the control and influence of the project developer. Besides, the participation process will need involvement of additional organizations (Rowe & Frewer, 2000). This criterion of independency has also been emphasized by Brown and Chin (2013) and Brown (2015).
3. *“Criterion of early involvement: The public should be involved as early as possible in the process as soon as value judgements become salient”* (Rowe & Frewer, 2000, p.14). The stage of public involvement is a much-discussed aspect in the literature. According to Kahila-Tani (2016), several studies have the relation between early involvement and consensus building, especially during the phase where value judgments are formed. Rowe and Frewer (2000) concluded that public should be involved as soon as is reasonably practical. Participation might be too late when, for example, participation is used to choose among possible sites for risky facility, without involving the public in decision-making about the need of the facility. Predefined problems without public participation should thus not be the basis for implementations. (Rowe & Frewer, 2000)
4. *“Criterion of influence: The output of the procedure should have a genuine impact on policy”* (Rowe & Frewer, 2000, p.14). A common complaint about participation methods is they often have been perceived as an ineffective process which is used to legitimate decisions. This ensures distrust and scepticism by the public concerning the motives of their involvement. Assurance about a clear acceptance beforehand about how the output will be used might be one approach to meet this criterion. Schroeter et al. (2016), also emphasized that every participant should have some influence over the outcome, because if they have no influence the participation has no value, and participation cannot make any changes in the project.

5. *“Criterion of transparency: The process should be transparent so that the public can see what is going on and how decisions are being made”* (Rowe & Frewer, 2000, p.15). Transparency in the process can deduct suspicions by the public about the project and motives of managers and facilitators. Transparency during the process might include sharing information about the procedure, varying from the way of the selection of the participants to the way in decisions in the project are made (Rowe & Frewer, 2000). In addition, the exchange and transparency of information will also contribute to learn more about each other’s position (Schroeter et al. (2016).

In addition, Rowe and Frewer (2000) defined the following process criteria:

6. *“Criterion of resource accessibility: Public participants should have access to the appropriate resources to enable them to successfully fulfil their brief”* (Rowe & Frewer, 2000, p.15). Necessary resources for public participants could be information resources, human resources, material resources, and time resources. Restrictions of any of these resources could affect the quality of the participation process. When arguments of participants are considered as being meaningful, access to relevant information that refers to the decision is necessary (Laird, 1993; Rowe & Frewer, 2000)
7. *“Criterion of task definition: The nature and scope of the participation task should be clearly defined”* (Rowe & Frewer, 2000, p.16). It is important to ensure clarity about the scope of participation, expected outputs and the operation of the procedure. Therefore, it is of importance that these aspects are clearly defined at the beginning. Possible disadvantage of an extended prescriptive set of definitions and rules could be reduced by flexibility concerning new information or disputes.
8. *“Criterion of structured decision making: The participation exercise should use/provide appropriate mechanisms for structuring and displaying the decision-making process”* (Rowe & Frewer, 2000, p.16). Structured decision-making would enable to examine the underlying reasons behind a decision and to examine to which extend a conclusion was well supported. In addition, it could also help to organize the process. According to Brown (2015), public participation needs a structure that exploits the benefits of the public while avoiding the excesses of public behaviour. Documenting the decision-making process will increase transparency and efficiency of the process. Several decision-making tools might be used into a participation procedure, like decision analysis and decision trees (Rowe & Frewer, 2000).

9. *“Criterion of cost-effectiveness: The procedure should in some sense be cost-effective”*(Rowe & Frewer, 2000, p.17). As concluded by Rowe and Frewer (2000), cost is an important concern in participation processes and value for money is a significant motivation. As mentioned by Schroeter et al. (2016) cost-effectiveness is also important for participants. If the perception about cost-effectiveness is negative, participants are likely to not participate the next time and they will see it as a waste of time.

Since any one method can be applied in a varies ways, it is impossible to conclude with certainty whether a method is successful or not (Rowe & Frewer, 2000). However, Rowe and Frewer (2000) have tried to connect the evaluation criteria to the methods of public participation (Appendix 1Appendix 2), this assessment of methods can be found in Appendix 2. As mentioned, the methods discussed by Rowe and Frewer (2000) are not the only methods of public participation. Therefore, the assessment of Rowe and Frewer (2000) can only be used to give direction in evaluating participation processes, but it will not be adopted as truth.

*Summarized: Several reasons and motives for citizen participation in planning projects can be distinguished. In addition, participation of citizens can contribute to health-related aspects (social interaction, vitality and activity). Levels and methods of citizen participation determine the influence citizens can have. The effectiveness of participation processes can be measured by acceptance and process criteria.*

## 2.4. Research objective and research questions

### *Conceptual framework*

In response to the discussed concepts in the theoretical framework, in this research the contribution of citizen participation will comprise the following aspects:

- 1) *The **purpose** of citizen participation*

There are different reasons and goals for the application of citizen participation: democracy, legal obligation (Bizjak, 2012), to build trust, to reduce conflict or to facilitate learning among publics (Reed et al, 2017; Berkes et al, 2009; de Vente et al, 2016). Local knowledge could also be a reason for citizen participation (Corburn, 2005). In addition, the empowerment of people can be an important reason for citizen participation (Laverack, 2006) or because it may enhance effective and efficient area-based programmes, and it increases the chances for successful implementations (Corburn, 2005).

2) *The **process** of citizen participation*

The results of citizen participation are highly dependent on the process design (Fröding, 2011). Rowe and Frewer (2000) specified criteria to evaluate the effectiveness of the process of public participation.

3) *The **perception** of citizens on their participation*

Participation processes and their outcomes are highly dependent on the participating citizen (Fröding, 2011). Next to behaviour and socio-demographic and economic background, the perception is an important factor of individuals for citizen participation in neighbourhood development (Matarrita-Cascante & Luloff, 2008).

4) *The **power** of citizen participation.*

Schroeter et al. (2016), emphasize that every participant should have some influence over the outcome, because if they have no influence and impact the participation has no added value and interests cannot be represented in the final outcome. Besides, the levels and methods of participation says something about the influence and impact participants can have (Rowe and Frewer, 2000). Another important effect, from the point of view of individual health, is the vitality and activity of citizen participation, and social interaction with other people may have positive effects on physical, mental, and self-reported health (Berkman & Glass, 2000).

**Fout! Verwijzingsbron niet gevonden.** shows the relations of the most important concepts and aspects in relation to this research. The conceptual framework shows that a healthy living environment is the starting point of the research. This starting point will be approached by the contribution of citizen participation. This study will look at citizen participation as an element of spatial planning (**Fout! Verwijzingsbron niet gevonden.**). To investigate the contribution of citizen participation, this study will focus on the four 'P's': **Purpose, Process, Perception** and **Power**, as mentioned above.

The **purpose** of citizen participation focusses on the initial reasons and goals of citizen participation in projects. The second and third aspects are the **process** of citizen participation and the **perception** of citizens on their actual participation. The final aspect of the contribution of citizen participation in this study is the **power**. The power of citizen participation concerns the influence and impact on the physical environment and the influence on social interaction. The power is the link between citizen participation and aspects of a health living environment. The first influence of citizen participation that will be studied is the influence on physical interventions that are focussed on a healthy living environment which results in changes in the physical environment. This could be aspects of the

natural environment and aspects of the built environment (Figure 2). In turn, the physical environment influences the health quality of the living environment. The physical environment can influence environmental health aspects like physical activity, stress, and air-, water and noise pollution. A second influence of citizen participation that will be studied is the influence on social interaction. At the same time, social interaction can also be stimulated by the physical environment and the other way around. In the scope of this study social interaction can be interesting since social interaction has also influences on health aspects like physical-, mental-, and self-reported health. Important aspects of social interaction are trust and social learning.

These four aspects (purpose, process, perception and power) of citizen participation will help to find an answer on the main research question.

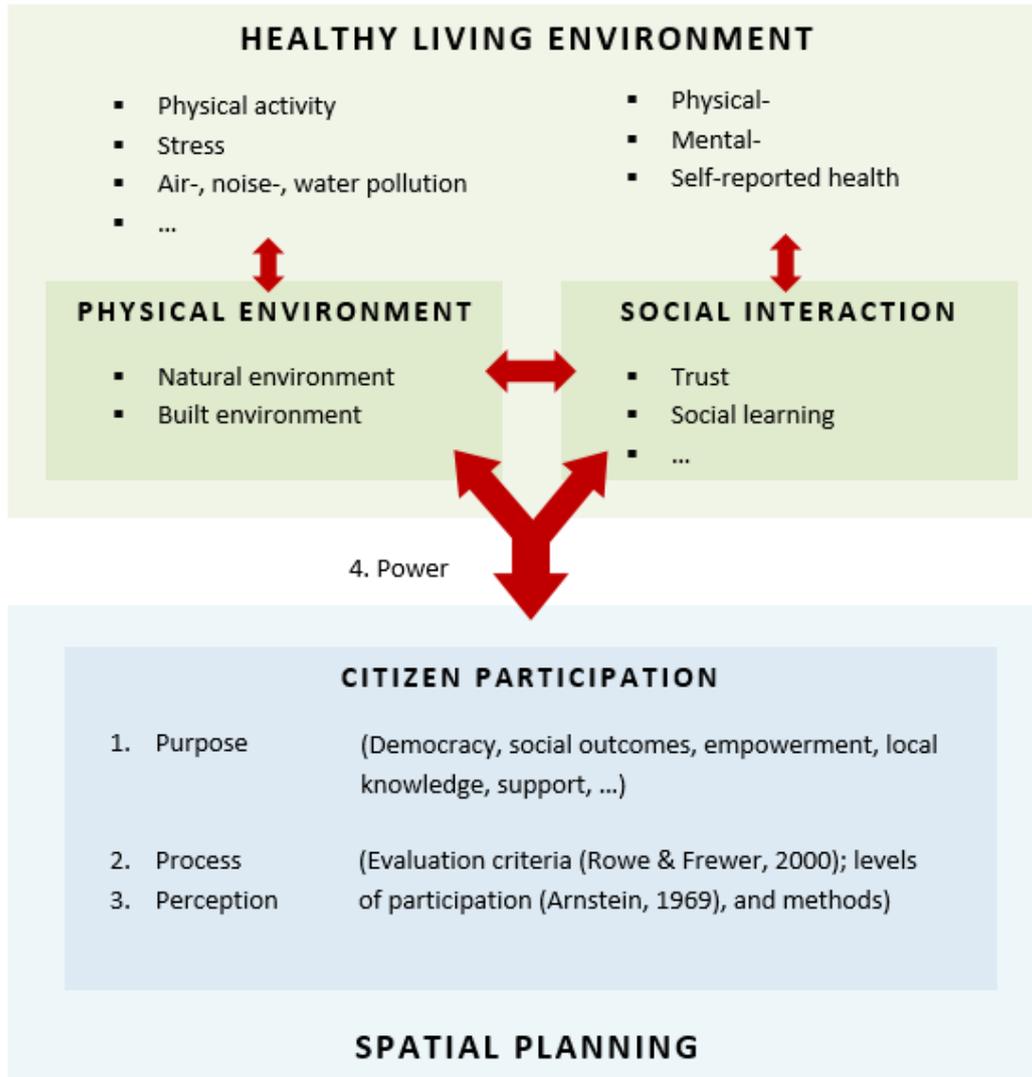


Figure 4: Conceptual framework

### *Research objective and research questions*

Building on the discussed theories and following from the conceptual framework, the research objective of this research is *to analyse how **citizen participation** concerning **physical interventions** contributes to **healthy living environments** in vulnerable Dutch neighbourhoods.*

The main question of this research is:

*How does citizen participation concerning physical interventions contribute to healthy living environments in vulnerable Dutch neighbourhoods?*

The four 'P's', **Purpose, Process, Perception and Power**, will together guide an extensive analysis to the contribution of citizen participation. Related to the four 'P's', the following four sub questions can be distinguished:

1. *What is the **purpose** of citizen participation concerning physical interventions for healthy living environments in vulnerable Dutch neighbourhoods?*

The first sub question will investigate the purpose of citizen participation in the specific projects according to the project managers/ initiators. This data will make it possible to see the process of the applied citizen participation and the power of the participating citizens in the right context.

2. *What is the effectiveness of the **process** of citizen participation concerning physical interventions for healthy living environments in vulnerable Dutch neighbourhoods?*

The second sub question will focus on the process of citizen participation in physical interventions that focus on promoting healthy living environments. Aspects that will be investigated for this question are the level of participation, methods that are used and the evaluation criteria by Rowe and Frewer (2000) as mentioned in the theoretical framework to analyse the effectiveness of the participation process.

3. *What is the **perception** of participating citizens in vulnerable Dutch neighbourhoods on the participation process of physical interventions for healthy living environments?*

The third sub question concerns the perception of the citizens in relation to the participation process and their participation within the project. An important aspect for this question is citizens' opinion about their participation. For this question, the evaluation criteria by Rowe and Frewer (2000) can also be used to give direction.

4. *What is the **power** of citizen participation concerning physical interventions for healthy living environments in vulnerable Dutch neighbourhoods?*

Finally, the fourth sub question will focus on the influence and impact of citizen participation in physical interventions for healthy living environments. The power will be investigated by highlighting three aspects; one, the influence and impact of citizen participation on the physical interventions of the project, second, the self-reported impact of the project on health aspects, and third, the influence and impact of citizen participation on the social interaction of the citizens. Next to the self-reported impact of the project on health aspects, these aspects are interesting because according to the literature both, physical interventions and social interaction can have positive influence on humans' health.

## 3. Methods

This chapter will describe the used information sources and the applied methods and instruments for data collection and data analysis during the research process. To clarify the framework in which the research is conducted, this chapter will start with a justification about the perspective of the researcher followed by an explanation about the character of the research. The next section will explain the research design as applied in this research. In this section, the applied methods and instruments for data collection as well as for data analysis will be outlined. Finally, credibility and validity strategies, limitations and ethical considerations will be discussed.

### 3.1. Perspective of the researcher

Since especially qualitative research will be influenced by researcher's position (Malterud, 2001), it is important to indicate the perspective of the researcher to clarify how this study can be influenced by the researcher.

As spatial planner, I am interested in the relation between physical elements of the living environment in relation to the influence and perception of the citizens. In my opinion, citizens are the reason for planning and therefore, they should be at the centre of spatial planning. The approach of the research proposal is highly influenced by this opinion, which is good to be aware of. This is visible in the fact that citizen participation and environmental health are important subjects in this research. Both subjects emphasize the importance of the citizen; 'citizen participation' by the voice of the citizen and 'environmental healthy' by the focus on the health of the citizen. This idea is in consistency with the definition of health in the constitution of 1948 (WHO, p.1):

*"Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being, without distinction of race, religion, political belief, economic or social condition."*

I did my bachelor 'Spatial Planning' at the University of Groningen where I learned to focus on the technical- but also the social side of planning and how to plan for the user. I am finishing my master 'Landscape Architecture and Planning' at the university of Wageningen, where the focus is much more on landscape and sustainability aspects.

This research has been conducted from a constructivist paradigm. Reality is in this view mind-dependent, and personal and socially constructed. As mentioned in the theoretical framework, citizen participation is dependent on local context. Reality is limited to context, which is in this sense related to vulnerable neighbourhoods and the related behaviours, perceptions and sociodemographic- and economic status of the citizens. From the constructivist view, knowledge is subjective and truth is related to human experience (Morrow, 2007). Therefore, in this research, demarcating the research area is very important, which will be done by carefully selecting multiple cases for the case study.

### 3.2. Character of the research

Based on the research questions, this study concerns a qualitative and analytical research to the contribution of citizen participation in spatial planning projects that are focussed on promoting healthy living environments. A qualitative research gives the possibility to study the experimental life of people (Polkinghorne, 2005). Therefore, qualitative methods have been used to study the role of citizen participation according to both, citizens and the project managers. Besides, qualitative methods make it possible to investigate variables that are not easily identifiable or that cannot be gathered by survey or other data-gathering strategies. When there are no theories available yet to explain phenomena or to present a detailed and in-depth view of a phenomenon, it can also be valuable to use qualitative methods (Creswell, 1998). Qualitative methods have therefore been used to analyse and evaluate theories about citizen participation in environmental health development specifically for vulnerable neighbourhoods.

For this research, the case study approach has been used since this method gives the opportunity to closely look at why and how decisions are made (Schramm, 1971), to deliberately cover contextual conditions (Yin, 2003), and to have an in-depth look in citizens perception and citizen participation in specific projects (Flyvbjerg, 2006).

More specifically, a multiple case study method has been used to compare the outcomes of several projects in different neighbourhoods. This multiple case study method has been applied to increase the explanatory power and generalisability of the data (Miles & Huberman, 1994, p.172). Yet, this study does not aim to be representable for all vulnerable Dutch neighbourhoods, since only a couple of cases could be conducted and the cases are not comparable on every aspect. Yet, this study aims to create a more complete image and specific and practical

knowledge about the contribution of citizen participation in projects that focus on healthy living environments in vulnerable Dutch neighbourhoods.

### 3.3. Data collection

With the multiple case study research, the researcher explored a multiple bounded system. Case study research contains a qualitative approach with detailed and in-depth data collection by using multiple sources of information (Creswell et al, 2007). Several methods have been used to gather data as part of the multiple case study; therefore, it can be called a mixed methods research. *“Mixed methods research forces the methods to share the same research questions, to collect complementary data, and to conduct counterpart analysis”* (Yin, 2009, 63). The different methods that have been used include interviews, desk research (several text documents and websites) and some observations. Three cases have been used to make it possible to compare different cases to increase the reliability of the outcomes. At the same time, the amount of three cases is a limited amount which made it possible to do in-depth research in the limited timeframe.

First the selection of the cases will be explained. Then the methods of data collection will be explained in relation to the cases.

#### *Case study selection*

Each case has been selected carefully by a list of selection criteria (Appendix 3). First some projects that seemed to be appropriate for the research have been selected. These projects have been found by searching on the internet with terms like ‘healthy environment’, ‘neighbourhood’ and ‘citizen participation’, besides some suggestions have been given by fellow students, supervisor, external supervisor and other colleagues. Subsequently, the projects have been reviewed by the selection criteria (Appendix 3), and contact has been made to check the suitability of the project in relation to the research and availability of data, time and persons to interview.

This process of finding the right cases for the research turned out to be a challenge and difficult task. Finding the right projects meeting the selection criteria and reaching the right contact persons ensured delay in the process of the research. Besides, many projects or people were not in the occasion for interviews.

One important criterion for the selected cases is that enough in-depth data is available to address the questions of interest (Gerring & Cojocaru, 2015). Therefore, in the first place, citizens should be involved in the project; citizens could be residents or other non-professionals but interested citizens.

Secondly, the citizens should still live in the same neighbourhood, because that makes it possible to interview them and they will still be part of the neighbourhood, therefore the project should not be finished more than two years ago (2016). In addition, this should also ensure that authorities of the project are still in the same function, information about the project is still fresh in memory, and documents and reports of the project are still available. On the other hand, the project should have enough progress in the process, to be able to say something about the role of participation; at least decisions about implementations of physical interventions must have been made, and preferably interventions are already implemented.

Other obvious criteria that have been used for case selection are that the project should comprise a vulnerable neighbourhood (at the time of the project), and the projects should be focussed on promoting a healthy living environment. In this study, vulnerable neighbourhoods have been selected by means of the so-called 'Vogelaar wijken' as selected in 2007 by the national government (Ministerie van Infrastructuur en Waterstaat, 2007). This selection is based on the following themes: socioeconomic disadvantages among households; problems of (social) quality of life, as experienced by residents; physical backlogs in the housing stock, and physical problems according to the residents. In addition, the neighbourhoods of the selected projects have been checked on vulnerability by using the 'Leefbaarometer' with more recent data from 2016 (Ministerie van Binnenlandse zaken en Koninkrijksrelaties, 2016).

Finally, the size of the city in which the neighbourhoods are situated has been important for the selection of cases. To make reliable conclusions the size of the cities should be comparable, because the author assumed that a vulnerable neighbourhood in a village or a small city will have problems at another level than a vulnerable neighbourhood in a big city. Since previous research is mainly focussed on vulnerable neighbourhoods in big cities and research shows that vulnerable neighbourhoods and health issues are a big problem in big cities (Verkleij & Verheij, 2003; Storm et al, 2010), this research is focused on cases in big cities. Besides, neighbourhoods of big cities will generally have a larger size and therefore more chance of matching projects. Therefore, the size of the city had to be more than 150.000 inhabitants.

Appendix 3 shows an overview with some projects that seemed to be appropriate for a case study at first instance. This selection is based on general information and summaries of projects found on the internet. These projects

have been assessed using the mentioned criteria; from this result three most applicable projects were chosen for the multiple case study.

Although the cases have been chosen based on several criteria, there are a couple important differences between the cases. Case 1 distinguishes itself from the other two by the fact that this project concerns a housing project initiated by the municipality (top-down), while the other two projects have been initiated bottom-up. Case 2 is different from the other cases since this case concerns an ongoing project, in which residents are continually involved, besides the project has a smaller scale and is less complex in terms of organization in relation to the other two cases. Finally, case 3 is different in the fact that the project has a short time span (one year from start to implementation).

These differences can influence the results of the research and are therefore important to consider in the discussion of the results.

#### *Methods of data collection*

The first case that will be discussed is the *NPD Strook (Utrecht)* (a description of the project can be found in chapter 4.1). In this project, some representatives of certain groups have participated in this project, since it is about a former industrial area to be transformed in a residential area. Some residents of the adjacent residential area have participated to a small extent, but unfortunately, they were hardly available for interviews.

For this case four interviews have been conducted. One interview has been done with the project manager to get to know more about the purpose of citizen participation in the project, to gain some background of the project, and to gain information about the process, influence and power of participating citizens. This information has been completed and verified by documents (Appendix 4) that have been made available by the project manager, and websites that could be used (Appendix 4). In addition to this gathered information, three participating citizens have been interviewed. These citizens have been suggested by the project manager. In this case it was difficult that the researcher was much dependent on the project manager to be able to make progress. The researcher did not have the possibility and data to get in contact with participating citizens by herself; the first contact with the citizens had to be made by the project manager. Therefore, unfortunately, this took much time in the process of data gathering. For this case, one interview has been conducted with one representative for students, one representative for elderly people and finally one interview has been conducted with a local resident who is active in the neighbourhood in several ways and a member of the neighbourhood council. All the interviews have been conducted in the City Office of Utrecht, except for one that has taken place at someone's home.

Secondly, the methods used for the case *Vegetable garden project 'De Waterlandjes' (Amsterdam)* will be outlined (a description of the project can be found in chapter 5.1). Data for this case has also been gathered based on four interviews. One interview has been conducted with one of the managers of the project. Besides, three participating residents of the neighbourhood have been interviewed. These interviews took place at the service point of the neighbourhood. For this case, the same problems occurred as in the former case, namely the dependence on other people. As a researcher, it took a lot of time for the right contacts and moments, which required patience and perseverance. Unfortunately, this stage of the research took more time than planned. Besides the interviews, some observation has been done in the neighbourhood to get a feeling of the atmosphere and to observe some of the results of citizen participation in the vegetable garden project. Because of the small size of the project, only a couple of useful documents and websites were available, yet, the research has made use of the contract and regulations which has been made for participating citizens (Appendix 4).

For the final case, *Renewal Eendrachtspark (Amsterdam)*, interviews were also the main source of data gathering (a description of the project can be found in chapter 6.1). One interview has been conducted with a project manager from the municipality and two interviews have been conducted with participating residents of the neighbourhood. The project manager brought the researcher in contact with one of the participating residents. This resident was actively involved and he was even appointed to organize the participation process with other neighbours. The researcher has been invited to join one of their sessions; a meeting with participation residents. Next to the interviews this observation of the session has been a useful source of information. During this session, several comments have been made, the researcher did not participate in the session. In addition, several documents (Appendix 4) that could be useful have been made available by the project manager, and the website 'Stem van Nieuw West' (Appendix 4) has been used.

Especially the interviews were important sources of information for this research. In this report, codes will be used to refer to the specific interviews, the codes for each of the interviews can be found in Appendix 5.

All the interviews that have been conducted were semi-structured. The interviews have been structured based on the main topics in the research questions; *purpose, process, perception and power*. The interview guide for both, the project manager and the participating citizens, can be found in Appendix 6. Semi-structured interviews gave the possibility to compare the interviews of different interviewees and it ensured that the needed information has been gathered. On the other hand, semi-structured interviews gave the interviewees the possibility to share his/her perception and additional information because of the open style of interviewing (Verschuren & Doorewaard, 1999). All the interviews have been conducted face to face, which gave the opportunity to ask additional questions and it

increased the chance of correct interpretations. The interviews have been recorded with a mobile phone, which made it possible to transcribe and code the interviews afterwards to be able to analyse all the gathered data. All the interviews have been as good as possible literally transcribed, since this increases the possibility of correct interpretations of perceptions, meanings and ideas. The online programme 'oTranscribe' has been used to easily transcribe the recordings. The interviews have been transcribed and coded as soon as possible after recording, to make it easier to transcribe and to keep right interpretations fresh in mind. The transcriptions of the interviews are not included in this document but can be requested as a separate attachment by the author of this document. The analysis of the transcriptions will be outlined in the next section.

The combination of the different methods that have been used to gather data for the case studies, like interviewing, desk research and observations take care of validity and reliability of the results. Appendix 4 shows a list of the used data per case, the data/ document titles are linked to the references that have been used in the text. This data can be obtained by request.

### 3.4. Data analysis

Data analysis started right after data-gathering. Data analysis for qualitative research is much dependent on researcher's own style of empirical thinking and needs careful consideration of alternative interpretations and a sufficient presentation of evidence (Yin, 2009).

For this research, lots of texts had to be analysed: documents, reports, websites and interviews. The first step of analysis has been a complete read through of the gathered data. A great challenge of conducting qualitative research is determining what is important to analyse (Yin, 2009). This read through has given the opportunity to distinguish important data from non- or less important data (Bryman, 2001), based on the conceptual model. Subsequently, the interviews have been coded. Coding along themes and topics can help to highlight priorities, provides focus to the process of analysis and will help to structure all the gathered data (Yin, 2009). The codes have therefore been drafted based on the conceptual model and other aspects that could be important in relation to the research questions (Table 1). Since the interviews have also been structured based on the conceptual model, it was quite easy to label the different subjects in the interviews. For the investigation of the process and perception the evaluation criteria by Rowe and Frewer (2000) and levels and methods have been used as codes. Using these codes made it possible to compare results with the 'assessment of the most formalized public participation

techniques by Rowe and Frewer (2000) (Appendix 2). For the documents and websites, it was not necessary to code, because the documents were already clearly structured. For the larger documents, it was only needed to distinguish useful information from less useful information based on the conceptual framework.

**Table 1: Coding interviews**

'Family' codes	Codes
<b>Purpose</b>	Purpose
<b>Process/ Perception</b>	Cost-effectiveness
	Decision making
	Independence
	Representativeness
	Resource accessibility
	Stage project
	Task definition
	Time of involvement
	Transparency
	Perception
	Levels
Methods	
<b>Power</b>	Influence
	Social cohesion
	Health
<b>Plus</b>	Introduction
	Nature of participants
	Neighbourhood characteristics
	Extra

For the coding of the interviews the coding programme 'Atlas.ti' has been used. The coding has been done per case, so all the interviews of one case have been put together in one file, so that codes-quotations lists from the three separate cases could be created. In a codes-quotations list all the quotations with the same code are put together, which gave the opportunity to analyse the results per subject. During the coding of the interviews of the second and third case some improvements have been made in the list of codes, therefore the codes of the first case have been recoded, and in the end, all the files have been checked again to improve the analysis.

After coding and structuring all the gathered information, the results have been elaborated per case. For every case, a case description has been given followed by the findings about the purpose, the process and the power of citizen participation in the project (see chapter 4, 5 and 6). These subjects have been extended by the perception of the respondents. Quotations from documents or interviews have been translated in this report by the author of this thesis. An overview of some aspects of the evaluation criteria by Rowe and Frewer (2000) has been created by structuring the perception of the respondents in tables for each of the cases (

Table 2, Table 3 and Table 4).

In the discussion part, the results of the separate cases have been compared with each other. Subsequently, the findings have been discussed in the context of the scientific objective and sub questions, as well as in the light of the chosen theoretical framework. In addition, the results are linked to previous findings and literature.

### 3.5. Credibility/validity strategies

The following validity strategies have been used as described by Creswell (2009): the use of three case studies contributed to the justification of outcomes, although the cases have some different variables they can be compared because they also have important corresponding variables (see selection criteria in Appendix 3). This raises the level of confidence in the validity of the method. Besides, the mixed methods like desk research, interviewing and observations make the results more reliable (Zainal 2007).

In addition, for every case one project manager or initiator has been interviewed and three residents have been interviewed (except for the case 3 which has been supplemented by an observation of a residents meeting). At first instance, the intendency was to interview five residents and one project manager per case. But after the interviews of the first case, interviewing three residents seemed sufficient to get reliable information and more feasible in the timespan. For some aspects of the research, interviews from both, the project manager and citizens, could be used to increase the validity of the results. In addition, the validity strategy of member checking has been used during the interview process by checking for a correct understanding of given answers (Creswell & Miller, 2000).

### 3.6. Limitations

The case study approach seems to be a relevant method for this research because of the possibility to investigate in-depth data within a specific context and to gather qualitative data by using different methods. Though, the case study approach does also have some limitations and disadvantages. One is that case study research is often dependent on the acceptance and participation of people (Verschuren & Doorewaard, 2005). For this research, the participation of citizens in the research is very important, since they have the most important information.

Another limitation of the case study approach is the pressure on the external validity of the results; the fewer cases are studied, the more difficult it is to pose the results representative to similar cases. In addition, case study research is commonly time consuming and labour intensive (Verschuren & Doorewaard, 2005), which in turn has limited the amount of cases that could be studied.

The cases are not comparable in every aspect; the projects differ in size, duration, gradation of focus on environmental health, and finally two projects are governed bottom up and the other one has a top down approach. Besides, this study is limited by only focussing on vulnerable Dutch neighbourhoods. Vulnerable neighbourhoods are relative to the reference of the surrounded environment. Therefore, the results of this study are not directly representative for vulnerable neighbourhoods in any other country.

Finally, the research is limited in relation to the results of citizen participation. This study has focussed on the purpose, the process, the perception and the power by looking at the results. The results could be investigated in terms of the influence of citizen participation on the physical interventions of the project and the influence of citizen participation on self-reported health impact of the project and the social interaction of the citizens. What could not be studied is the actual influence on the health quality because that is too complicated and time consuming, besides there are many other aspects that influence human's health. Therefore, this study will not claim that citizen participation always ensures a healthier living environment. But it has been assumed, in the mentioned literature that citizen participation contributes to several aspects of health.

### 3.7. Ethical considerations

Since this study includes human participants, ethical issues have raised during the research. This research makes use of the term vulnerable neighbourhoods instead of deprived neighbourhoods since this last term has negative associations. Besides, it was still important to respectfully deal with this term, since it could be a sensitive topic to some people. In this research, this term has been used with respect as well as during the interviews as in this final report.

Besides, the respondents have been treated with respect; their participation has been voluntary and they have the right to withdraw from the study at any stage if they want to. Participants are also informed about the use of their given information and permission has been asked. Finally, privacy and anonymity of respondents is guaranteed to protect the respondent.

# 4. NPD Strook (Utrecht)

## Case 1



This chapter presents the results of the case study '*NPD Strook*'. First some general information and important aspects of the specific project in relation to this research will be described. Thereafter the results will be outlined based on the subjects of the sub questions; the purpose, process and perception, and power.

### 4.1. Project description

In the centre of Overvecht new housing has been planned. It concerns houses at the old location of the Dutch Package Service (NPD). The location is situated in the North of Utrecht in the neighbourhood Overvecht (Figure 5). The centre area of Overvecht forms an important district centre. The plan area is roughly bounded by the Seinedreef (parking lot of the shopping centre), the Zamenhofdreef, the Brailledreef and the former exit of the NPD (Figure 6), the project area covers around 30.000 square meters.

More than 10 years ago, the municipality bought the barns of the package service and the former Spectrumbuilding at the corner of the Zamenhofdreef and Brailledreef. This enabled the development of the centre area of Overvecht. Before the outbreak of the economic crisis, it seemed possible to expand the number of shops and to build a parking facility in combination with houses. But because of the economic crisis, these plans have been cancelled in the beginning of 2014. The municipality decided to develop the centre area in a more organic way. For the approach, a public meeting has been organised, where the involved parties of the project area identified the problems and opportunities. Representatives of the neighbourhood council, the residents' platform and traffic working group, residents of the area and the owners, shopkeepers of the shopping centre and real estate owners took part in the public meeting.

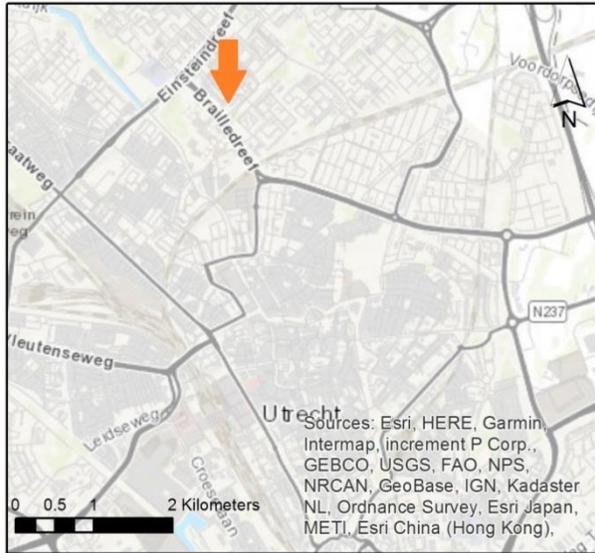


Figure 5: Overview case 1, Utrecht



Figure 6: Project area case 1, NPD Strook



Figure 7: Building blocks NPD Strook (Gemeente Utrecht, 2017)

The starting point of the plan area is to create a new border of the centre area consisting of 4 building blocks (Figure 7). High density should ensure optimal land use and closed building blocks take care of a quiet indoor climate in the busy centre.

The municipality wants to focus on sustainable and healthy urbanisation. This project aims to contribute to sustainable and healthy urbanisation by the following aspects: investing in an attractive green indoor garden, better accessibility, double use of parking lots and good cycling possibilities. In addition,

higher requirements than legally necessary are set for energy supply, use of raw materials and quality of living (Gemeente Utrecht, 2017).

As mentioned by the municipality (Gemeente Utrecht, 2017), Utrecht is a fast-growing city, which requires not only more space for dwelling, but also a healthy economic development, with place for working, facilities and recreation in the city. Sustainable and healthy urbanisation is an important focus for the future of Utrecht: a healthy urban living. The developments at the NPD Strook should also contribute to better position Overvecht in relation to other parts of the city by focussing on mixed urban areas with different target groups. (Gemeente Utrecht, 2017)

Overvecht has been described by citizens as a good neighbourhood to live in, although it is indicated that it is one of the less favourable areas of Utrecht. There is a good atmosphere, a lot of green and the neighbourhood has a lot of public space. Some problems have been identified in the social field; there is a low social environment and there are many different population groups that do not really mix well. (NPD-P1-05.04.18; NPD-R2-20.04.18; NPD-R3-25.04.18)

This project is different from the other two projects since this project concerns a housing project and the other two projects do not. Besides, the initiative for this project comes from the municipality.

## 4.2. Purpose

In this part, the purpose and the reason of citizen participation in the project of the NPD Strook will be outlined.

The termination of the cooperation agreement between Synchron/Amvest and the municipality of Utrecht, because of the economic crisis, has made the municipality to decide to address the development of the centre area of Overvecht in a more organic way. For this new approach, a public meeting was organized in May 2014; in this meeting involved parties have identified the opportunities and problems of the area (Gemeente Utrecht, 2017). In this way, the economic crisis has been the motivation to a more organic approach in which more focus has been placed on interested parties.

In the selection guideline (Gemeente Utrecht, 2016), the Municipality of Utrecht indicates that participation of future residents and users must be considered by the executive party. The criterion is as follows: *"In your application you must give a vision on the way in which you allow future residents and users to participate in the planning phase"*

(Gemeente Utrecht, 2016, p.10), The municipality challenged the market parties to come up with ideas for applying participation in their planning process (NPD-P1-05.04.18). The participation plans of the market parties have been assessed on the extent to which future users could participate and the role they would have in the planning process. This criterion was a substantial part of the assessment. (Gemeente Utrecht, 2016). The selection guideline does not explain anything about the reason or purpose of this compulsory participation. Although the selected project developer has a clear purpose for participation process. As mentioned in their tender document (Van Wijnen & AM, 2017): *"An essential part of the development process is to align interests with each other, with special attention to the importance of the neighbourhood. The neighbourhood its residents and entrepreneurs are the stakeholders who will experience the most impact of the development plans, while they usually have the least influence"* (Van Wijnen & AM, 2017, p.6). The aim of the project developer is to create connections in the neighbourhood, to involve stakeholders, to connect students and knowledge institutes with the neighbourhood and to strengthen centre functions. (Van Wijnen & AM, 2017)

As mentioned by the project manager (NPD-P1-05.04.18), the municipal administration strives to make as many plans as possible in collaboration with residents and other stakeholders. This is in line with the slogan of the coalition agreement of the current Executive Board: "We make Utrecht together". In addition to this aim of participation, since a long time, the application of citizen participation in spatial projects is common and now it is mandatory as well (NPD-P1-05.04.18).

The purpose of applying citizen participation in this project is described by the project manager as *"... adding houses to the district, and if possible, to provide business premises on the ground floor of those buildings, in such a way that activities and changes will take place for the benefit of the neighbourhood"* (NPD-P1-05.04.18). In addition, the project manager indicated that some influence of future residents should also be ensured. Finally, the project manager indicates that citizen participation provides experience and specific knowledge which will positively contribute to the final results of the project.

No direct cause has been mentioned to make use of citizen participation in relation to health aspects. Yet, the project manager mentioned that citizens have knowledge of the area that professionals do not have and therefore their specific knowledge can be used to make plans as good as possible for the quality of life in the neighbourhood. In addition, the project developer indicates to strengthen the interaction and connection between the residents. (NPD-P1-05.04.18)

### 4.3. Process and perception

The results about the participation process will be outlined, based on the *methods* of participation and the evaluation criteria (Rowe & Fewer, 2000) as mentioned in the theoretical framework: *representativeness, independence, time of involvement, influence, transparency, resource accessibility, task definition, structured decision making, and cost-effectiveness*. In addition, the perception of the interviewees about several aspects of the participation process will be outlined.

#### *Process*

The participation process consists of different parts and methods. After the collaboration with Synchroon / Amvest has been dissolved, the municipality has decided to organise a meeting for involved parties and individuals of the centre area of Overvecht to talk about a new start and a new approach of collaboration for the development of the NPD Strook. At this public meeting (*method*) the following parties were present: representatives of the district council, the residents' platform, the traffic working group, residents of the area, the owner-occupiers and retailers of the shopping centre and real estate owners (*representativeness*) (Gemeente Utrecht, 2017). Everyone, of whom the municipality knew they were interested in the developments of the NPD Strook, has been invited to attend this meeting (*representativeness / independence*). Approximately forty people attended the meeting estimated by the project manager. From this meeting, the municipality has continuously focussed on who should be involved and how to keep them involved in the process. This has not been an easy task, according to the project manager, as it is a long-term process (already seven years in progress) (*representativeness / independence*) (NPD-P1-05.04.18).

On the 17th of May 2016, a walk-in evening (*method*) has been organised by the municipality visited by fifty interested attendees (Figure 8) (Gemeente Utrecht, 2016a). As mentioned in the reactions on the SPvE (Gemeente Utrecht, 2016a), the attendees were mostly positive about the presented plans (*perception*). Thereafter, the Urban Development Program of Requirements (SPvE) has been made available for public inspection (between 19 April and 31 May 2016: Figure 8), eleven opinions were received from those involved (*structured decision making*). The submitted opinions have not led to any substantial changes in the concept of the Urban Development Program of Requirements (Gemeente Utrecht, 2017) (*influence*). At the same time, a period (22 April until 13 June 2016: Figure 8) has started in which market parties had the chance to subscribe for the development and realisation of the programme for the NPD Strook (Gemeente Utrecht, 2017).

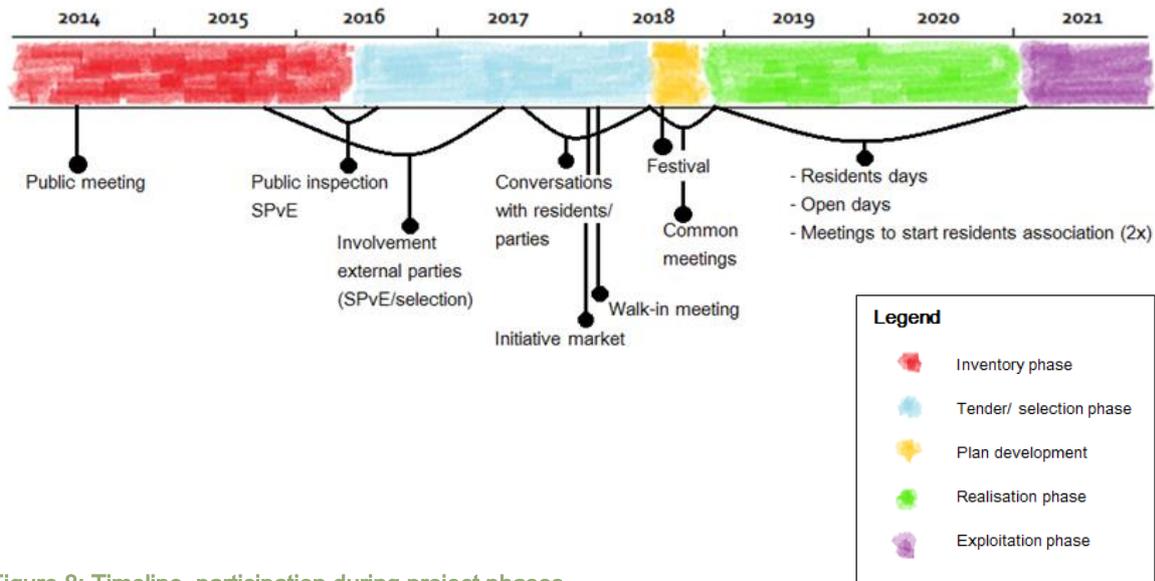


Figure 8: Timeline, participation during project phases

As mentioned by the project manager (NPD-P1-05.04.18), the municipality became very active in involving citizens in the selection process of the market parties (*time of involvement*). In addition to the fact that several parties have been actively involved in the selection procedure, local starting entrepreneurs have also been given the opportunity to be involved in the project (*independence / representativeness*). When a project developer was elected for the development of the NPD Strook, the project developer became responsible for the participation in their own trajectory of the project as one of the asked criterion. The municipality has asked the winning party to come up with some ideas how to keep the neighbourhood informed (Gemeente Utrecht, 2016; NPD-P1-05.04.18). The winning party offered several methods for the involvement of local residents and other interested. The party has organized an 'initiative market' (18 January 2018: Figure 8) (*method*) in which starting entrepreneurs from the neighbourhood have been invited to present their plans and ideas to the project developer to create a connection between the market parties and entrepreneurs' plans. According to the project manager, this was a great success (*perception*): "A number of those parties are still involved in the plans" (NPD-P1-05.04.18)

The developer makes use of the so called 'place-making' of the area; the coming months and years activities, events and other possibilities will be organised so that future residents and people in the neighbourhood are kept

informed. As a kick-off, a festival has been organized on the demolition area (22 April 2018: [Figure 8](#)) to keep people informed of the plans and developments (NPD-P1-05.04.18). Furthermore, local residents are kept informed about the process by means of information letters from the municipality distributed in the adjacent area and public information meetings (*methods*) (NPD-P1-05.04.18, Gemeente Utrecht, 2017c)

The decision-making during the project has clearly been structured, according to the project manager (NPD-P1-05.04.18). The 'Utrecht Plan Process' (UPP) has been used to give structure to decision-making. This UPP has been composed by the municipality of Utrecht and is used in complex spatial projects (Gemeente Utrecht, 2016b). This structure is also public for citizens, which gives citizens the opportunity to respond to the plans as they are at that moment (*structured decision making*) (NPD-P1-05.04.18).

As mentioned by the project manager (NPD-P1-05.04.18), he is not so much focussed on the cost-effectiveness of participation in the process of the project. Besides, several representatives of interests have participated at low or zero costs and have contributed with important and specific knowledge the municipality did not had internally (*influence*). *"The representative of students who participated turned out to know more about the matter than our people form the municipality. I saw that as pure profit, and it was cost-effective"* (NPD-P1-05.04.18). In addition, the project manager emphasized: *"I think you should not even ask that question. In these kinds of spatial processes, you just must look for support, cooperation and people that think along"* (NPD-P1-05.04.18). In this respect, the project manager agrees that the participation in this project is cost-effective, since the result will be recognized and acknowledges by more people (NPD-P1-05.04.18) (*cost-effectiveness*).

### *Perception*

[Table 2](#) shows the overall perception of the project manager and the interviewed residents about the distinguished aspects of the participation process, namely: representativeness, time of involvement, transparency / resource accessibility / task definition, methods / level, and finally their perception of the overall participation process. The aspects 'independence, structured decision making and cost-effectiveness' have not been outlined in table 2, since the perception on these aspects has not been discussed in the interviews. Besides, the aspect 'influence' is also not present in table 2, since the perception of the influence will be discussed in section 4.4.

The text in the table is an interpretation of the author on the information obtained from the interviews. Additional or clarifying quotes from the interviewees are mentioned below [Table 2](#).

**Table 2: Perception of respondents about their participation NPD Stroom**

<p><b><i>Representativeness</i></b></p>
<p><i>Everyone in the adjacent area has been invited by means of a letter of information (NPD-P1-05.04.18; NPD-R3-25.04.18). Which does not mean, that everyone had the opportunity to participate; language barriers, cultural barriers or educational issues can ensure that not everyone has an equal opportunity to participate * (NPD-P1-05.04.18). In addition, there are also many residents who do not want to participate (NPD-R1-20.04.18).</i></p> <p><i>The respondents all agreed that the group of participants is not representative for the residents in the neighbourhood (NPD-P1-05.04.18; NPD-R1-20.04.18; NPD-R2-20.04.18; NPD-R3-25.04.18). It turns out that mainly the higher educated, white men participate in the project. It has been mentioned that most of the participants of an informative meeting have an interest above average (NPD-R3-25.04.18).</i></p> <p><i>Besides, interest representatives have ensured that future residents are also given a voice, which does not mean that they are representative for future residents.</i></p> <p><i>The participating group in this project is therefore not representative, which is, according to the respondents, inevitable (NPD-P1-05.04.18, NPD-R3-25.04.18, NPD-R2-20.04.18).</i></p>
<p><b><i>Time of involvement</i></b></p>
<p><i>Residents are continuously involved in the project. It started at the public meeting in 2014, were stakeholders have been involved to identify opportunities and problems of the plan area (inventory phase: see Figure 8). (NPD-P1-05.04.18)</i></p> <p><i>The interviewed interest representatives were actively involved since the tender procedure. The representatives are all satisfied about the time they got involved. In addition, it is also indicated that the project manager played an important role in the participation process. The project manager was a proponent of participation and helped interested parties to be involved (NPD-R2-20.04.18).</i></p> <p><i>Most representatives remain involved during the realisation and exploitation phase (Figure 8), but for most of the parties it is no longer relevant (NPD-P1-05.04.18; NPD-R2-20.04.18; NPD-R3-25.04.18). Residents and future residents, on the other hand, are involved in the realisation phase; they are kept informed by, for example, events organized by the project developer.</i></p>
<p><b><i>Transparency / Resource accessibility / Task definition</i></b></p>
<p><i>During the process, the Municipality has been transparent to the participants about the project and decisions that were made (NPD-P1-05.04.18; NPD-R1-20.04.18; NPD-R2-20.04.18; NPD-R3-25.04.18). At least for the representatives it was transparent, according to resident 3 it is easy for them because they are fully involved in the decision-making process and they know where to find all the necessary information. For a layman, on the other hand, it will be a lot harder to find the right information and to be aware of all the decisions that will be taken ** (NPD-R3-25.04.18).</i></p> <p><i>The project manager indicates that residents can find all the information about the project online on the website of the municipality (NPD-P1-05.04.18), but according to residents this is not a clear and usable site (NPD-R1-20.04.18; NPD-R3-25.04.18). According to the project manager there is clear communication towards the residents about what is expected of them during the project and what the plans for the area are; several meetings have been organized, moments for perusal and information letters have been sent around (NPD-P1-05.04.18). According to resident 3, there are plenty of opportunities to be informed, but you should know where to find it (NPD-R3-25.04.18).</i></p>

### **Methods / level**

*The project manager himself is proud of the methods that are used for citizen participation like for example the market for initiatives of local starting entrepreneurs (NPD-P1-05.04.18).*

*The interviewed representatives could participate mainly by having a say during public sessions. Besides, they had the opportunity to co-decide in the selection procedure of the project developer (NPD-R1-20.04.18; NPD-R2-20.04.18; NPD-R3-25.04.18).*

*Generally, the interviewed participants are satisfied about the methods of involvement. Yet, they have some comments; a lot of persuasiveness and perseverance is needed to make your point, and you have to take the first step by yourself. (NPD-R2-20.04.18; NPD-R3-25.04.18).*

### **Overall participation process**

*The project manager is a proponent of citizen participation but he believes that it is sometimes good to not involve the citizens \*\*\*. Besides, the project manager indicates that it is an exciting process because it was the first time that external parties could decide in the selection for the project developer. Yet, he is most satisfied about the participation of the three externals (representatives of the students, elderly and neighbourhood council\*\*\*\*. Besides he is very satisfied and proud of the participation of the elderly; because they were very enthusiastic about their participation.*

*The project manager is the least satisfied about who could be reached; the participating group is limited by the kind of 'promising selection' of Overvecht. (NPD-P1-05.04.18)*

*The involved citizens are satisfied about the participation trajectory; they liked it; the process went well and the maximum achievable of participation in such a process has been reached\*\*\*\*\*. (NPD-R1-20.04.18; NPD-R2-20.04.18; NPD-R3-25.04.18)*

*Participants are the least satisfied about the fact that they must put a lot of effort and they need to be strong in their arguments to be able to make changes and they must persevere otherwise their ideas and opinion will not be heard. (NPD-R2-20.04.18; NPD-R3-25.04.18) Finally, it has been mentioned that more attention should be given to people who do not participate so easily in the process; information should be available more easily. (NPD-R3-25.04.18)*

\* *"We do miss a part of the population, you can hardly ever get the people involved who, for example, do not understand the Dutch language and the real problem group from the neighbourhood is also not present." (NPD-P1-05.04.18)*

**"What should happen in your opinion to be able to include those people?" (Author)**

*"A strong focus on improvement of education, more attention for people is needed and to ensure that the municipality is really visible in the neighbourhood." (NPD-P1-05.04.18)*

\*\* *"Like I said before, I know the procedure, so I know when decisions will be made. I am certainly not dissatisfied. But again, I am alert because I know which and when decisions have to be made." (NPD-R3-25.04.18)*

\*\*\* *"I am not a big enemy of what they call 'back rooms'. Sometimes you have to make decisions with just a few parties and then turn to the public again like: 'This is how we want to do it'." (NPD-P1-05.04.18)*

\*\*\*\* *"We noticed that they really add something." (NPD-P1-05.04.18)*

\*\*\*\*\* *"I think that the wishes of the population are incorporated in the plan." (NPD-R2-20.04.18)*

## 4.4. Power

The power of citizen participation will be outlined based on the influence and impact that citizens have had on the final interventions, and the level of participation. Besides, the results about how the project contributes to environmental health and how the participation process contributes to social interaction in the neighbourhood will be explained. Finally, a reflection of the respondents about the influence that citizens have on the project will be outlined.

### *Physical interventions*

Citizens could have influence on the project in different ways. For example, there were several residents' meetings where citizens had the opportunity to give comments and critique on the plans; residents could present their ideas and stay informed about the progress (*level*).

As mentioned by the project manager, the municipality presented their plans and ideas and the participating residents did agree with most of their plans, for example they were enthusiastic about the idea of creating opportunities for starting entrepreneurs in the neighbourhood. At the same time, citizens keep the municipality alert; the elderly have contributed by emphasizing the importance of accessibility of the houses or flats, even for people with disabilities. (NPD-P1-05.04.18)

Besides the public meetings and viewing moments (*level*) of the plans, the municipality has involved three external parties in the selection procedure of the project developer. These three externals represented the future students, the elderly, and the neighbourhood council (NPD-P1-05.04.18). According to the project manager, *"A very important experience we had was that those three external people really added something to the selection and to the appreciation of the submissions"* (NPD-P1-05.04.18). The interest representatives could contribute in drafting criteria for potential project developers, and they could fully assess in the selection procedure (*level*).

Another example that illustrates the influence and impact of the participation process is the 'initiative market'. Some parties that have presented their plans at the 'initiative market' are still involved in the plans (*level*). One of those parties are two women, starting entrepreneurs in the neighbourhood, who will get a separate space at the top of one of the buildings for their concept of home care for demented elderly. (NPD-P1-05.04.18)

The project manager mentioned that citizen participation has produced the following: support from the neighbourhood, all aspects and different perspectives are discussed and processed in the project, and he mentioned that the participation makes that everyone is proud of the plans of development. (NPD-P1-05.04.18)

Resident 1 indicates that it is difficult to say what exactly his impact has been to the final selection. *"But afterwards, I think the support I have given during the whole process has contributed to make the right decision in the end"* (NPD-R1-20.04.18). He does not want to say that his contribution has been decisive, but he had influence on the final decision. For example, he has been able to indicate that there should be enough space for moving vans (because students move many times), a spacious storage cellar is required, and he recommended about the space and price of the student rooms. According to resident 1, most of his wishes and recommendations have been considered in the final plans and some of them will be implemented, like the bicycle storage and the common rooms (*level*). (NPD-R1-20.04.18)

Resident 2 took also part in the assessment commission (*level*). He says: *"I was part of the assessment commission, so I could have a balanced input in relation to all the present professionals."*, *"...if I was not allowed to give that input, the final project would had been different"* (NPD-R2-20.04.18). As mentioned by resident 3, the impact of his participation is visible in the final plan, for example the fact that the target group of elderly is involved but also in facilities, shared rooms, meeting rooms and a shared outdoor space. Especially the shared outdoor space is very important in accordance to resident 2, since the range of use for elderly decrease, so people will become easily lonely. (NPD-R2-20.04.18)

Resident 3 mentioned that there are a couple of things adopted in the final plan that are mentioned by the participating citizens, like a place to load and unload at the student houses and an electrical connection in the parking garage. (NPD-R3-25.04.18)

### *Health*

Resident 1 says the following about the health impact of the project: *"If all the buildings in the city would look like the buildings from the project, I think we would have a much healthier city"* (NPD-R1-20.04.18). Sort of public living rooms will be created in the buildings: places for the neighbourhood to be able to meet each other. According to Resident 1, places to meet neighbours will prevent loneliness in the long term, besides; activities and places to come together will reduce the chance of criminality. (NPD-R1-20.04.18)

Resident 2 did also mention the importance of public areas that will be created in the buildings to prevent loneliness, to keep people involved in the neighbourhood, and to activate and inspire people. *"Hopefully, it will not just be a building standing there, but a building that creates a society"*. (NPD-R2-20.04.18)

According to Resident 3, the project cannot contribute to the quality of health in the neighbourhood. She mentioned that the project can possibly attract people with a higher average income which can also ensure a higher average of health. But that does not mean that the project will affect the health quality of current residents. (NPD-R3-25.04.18)

### *Social interaction*

The project manager (NPD-P1-05.04.18) indicates that he has not seen any changes in social interaction within the neighbourhood in relation to citizen participation since most of the participants are organized groups. *"I could say that this project offers the opportunity to meet each other around such a theme, but I have not observed that it really leads to major changes"* (NPD-P1-05.04.18).

Resident 1 (NPD-R1-20.04.18) has the idea that there is a strong relation between how the neighbourhood has been involved and how the final project is going to look like. Although, he is not sure if it has been decided to place the social facilities because of the involvement of residents or the other way around; residents have been involved because the plans are much focussed on social facilities. *"I think the idea behind the project has been that it should really affect the social character of the neighbourhood and that there is more mutual contact between the different groups. I think that has been a very important component"* (NPD-R1-20.04.18). He does not know how this will elaborate in practice.

According to Resident 3, the participation process did not necessarily influence the social cohesion within the neighbourhood. She indicates that a positive influence is not always possible because there is not always unanimity in a participation group. In this project, she could not see the influence of citizen participation on the social interaction in the neighbourhood. (NPD-R3-25.04.18)

### *Reflection*

The project manager is content about the influence citizens have had on the project. Mainly organized groups have participated, only a few separate residents have been actively involved. Since they did not have real opponents in the project, the participation trajectory was quite relaxed, according to the project manager. (NPD-P1-05.04.18)

The objective of resident 1 was 'to ensure the project area becomes a place where he would like to live by himself if he would become 18 in four years', *"and that is what it has become"*. *"So, maybe a bit selfish, I am personally satisfied with the results"* (NPD-R1-20.04.18). Ideally, he would like to know exactly what is coming and what will be decided, so in that sense he would like to have more influence, but unfortunately there is a limit (NPD-R1-20.04.18).

Resident 2 is also satisfied about the results and specifically about the influence he could have in the selection procedure.

Finally, resident 3 has experienced that you need to persevere, to be strong and alert to get attention for your ideas and opinion. *"It takes a lot of perseverance"* (NPD-R3-25.04.18), but according to resident 3, it is worth it. (NPD-R3-25.04.18)

## 4.5. Summary

In this housing project, participation has been implemented by a top-down approach. At first instance, residents and interest representatives have been involved to create a more organic approach with more focus on interested parties. The aim of this citizen participation is to better develop for the benefit of the neighbourhood. In addition, citizen participation provides experience and specific knowledge which can positively contribute to the final results of the project.

Several methods have been used to let citizens participate. A couple of public meetings have been organized, accessible for every resident or interested party. Residents have been informed about meetings and the project by information letters. Parties or people that seemed highly relevant to the municipality have been personally invited. During the process, the plans have been available for inspection by everyone.

Especially some representatives of future residents have been actively involved in the selection procedure of the project developer. The representatives had an equal voice in the final selection; according to the project manager they have made a worthy contribution to the project.

The selected project developer did also have a participation plan. Residents have been involved by several events, to keep them up to date about the development of the project and some starting entrepreneurs have been involved into the final project.

According to the interviewed representatives, the municipality has been transparent and enough information has been made available, but for the layman it could still be difficult to get involved and to find the right information. Most of the residents were positive about the project plans, and they did not have so much input on the final plans. On the other hand, the external people that were representatives of the elderly, the students and the neighbourhood council, did have influence on the final design at the NPD Strook.

On a relatively small scale in relation to the total neighbourhood, a healthy living environment will be created; greenery, common rooms and gardens and limited traffic should contribute to this. Citizens have contributed to the design of a healthy living environment to a certain extent. Yet, it is also suggested that the scale is too small to achieve a healthier living environment. Participation has contributed little to social interaction because most of the participating citizens were organized groups. Yet, the design of the NPD Strook aims to stimulate to social interaction.

# 5. Vegetable garden ‘De Waterlandjes’ (Amsterdam)

## Case 2



This chapter presents the results of the case study ‘*Vegetable garden ‘De Waterlandjes’*’. First some general information and important aspects of the specific project in relation to this research will be described, followed by the results of the case study. The results will be outlined based on the subjects of the sub questions; the purpose, process and perception, and power.

### 5.1. Project description

The vegetable garden project ‘De Waterlandjes’ is a neighbourhood initiative from a local doctor in the neighbourhood Nieuwendam in the North of Amsterdam (Figure 9). The project is located next to the shopping centre, the service point of the neighbourhood and the Health Centre (Figure 10). The project area covers around 510 square meters.

The project has been initiated in 2016 by the local doctor together with a foundation for social services (Doras) and the local government. The vegetable garden project should stimulate the health of the neighbourhood and it should connect the neighbours with each other. The vegetable garden is located in front of the entrance of the Health Centre; this ensures the project is in close contact with the Health Centre. In ‘De Waterlandjes’, patients from the doctor, clients from Doras and volunteers from the service point of the neighbourhood work together. In this way, they hope to contribute to a healthy lifestyle, liveability and more cooperation in the neighbourhood. Residents have not just been involved in the starting process but they are part of the continuing project. (Jonker & Koetsier, 2016)

District north has expanded a garden plot for this project, which include self-management of the garden. The garden plot consists of about twenty gardens. The members of the vegetable garden group are together responsible for good management and maintenance of the garden. A management team, consisting of participants of the vegetable

garden, has been appointed for the responsibility of organization, management and maintenance of the garden plot (Beheerteam Robina tuintjes, 2016).

This project is mainly focussed on a healthy environment. Important health aspects of the vegetable garden project 'De Waterlandjes' are the promotion of healthy food, like vegetables and fruit, being active outside, which is not only good for your own health but it can also influence the safety of the neighbourhood, and finally the project stimulates social interaction among neighbours (VGP-R4-04.05.18; VGP-R5-04.05.18).

The neighbourhood is described by residents as a quiet neighbourhood with few problems. The social interaction between neighbours is indicated as good and the residents are a mix of all kinds of cultures. It is visible that the neighbourhood is a poor area in Amsterdam with little prosperity and for example barely yuppies and people with a full-time job. (VGP-R4-04.05.18; VGP-R5-04.05.18; VGP-R6-30.05.18)

This project distinguishes itself from the other two projects since this project concerns an ongoing project in which residents are continually involved and the project area is relatively small in relation to the project areas of the other two cases.



Figure 9: Overview case 2, Amsterdam



Figure 10: Project area case 2: De Waterlandjes

## 5.2. Purpose

In this part, the purpose and the reason of citizen participation in the project 'De Waterlandjes' will be outlined.

This project has been initiated by the local doctor in collaboration with Doras (social service of Amsterdam North). The doctor himself has indicated as an important reason to start this neighbourhood initiative with participation of residents, to connect residents. In addition, the project also aims to stimulate the health of the neighbourhood, therefore, the project is located close to the health centre at a visible spot near the shopping centre in the Waterlandpleinbuurt (Jonker & Koetsier, 2016). In accordance with this purpose, Doras indicates that the project should contribute to a healthy lifestyle, liveability and more cooperation in the neighbourhood (Doras, 2018).

As mentioned by one of the project leaders (VGP-P2-01.05.18) the most important reason for citizen participation in this project has been general government policy and the effort of own responsibility and power. He emphasized that almost everything that will be organized in the neighbourhood should be initiated by residents of the neighbourhood according to the policy. The responsibility has been placed at the citizens, *"and we have much more the supporting role"* (VGP-P2-01.05.18).

Besides, the project manager indicates that there is a motive of health, sportsmanship, movement, and a reason to meet other neighbours and *"being a neighbourhood together"* (VGP-P2-01.05.18).

## 5.3. Process and perception

The results about the participation process will be outlined, based on the *methods* of participation and the evaluation criteria (Rowe & Fewer, 2000) as mentioned in the theoretical framework: *representativeness, independence, time of involvement, influence, transparency, resource accessibility, task definition, structured decision making, and cost-effectiveness*. In addition, the perception of the interviewees about several aspects of the participation process will be outlined.

### *Process*

As mentioned before, the idea of a vegetable garden for the neighbourhood started by the local doctor, the foundation Doras in 2016 and the local government. They have been promoting their idea in the neighbourhood by hanging some posters at the service point of the neighbourhood (*resource accessibility*). (VGP-R5-04.05.18)

Because the project has been conceived from the neighbourhood and residents have been needed to set up this project, residents have been involved in this initiative from the start, next to the involvement of the doctor and Doras. In this case, without residents the project would not exist (*time of involvement*). (VGP-P2-01.05.18)

The idea of a vegetable garden has been inspired by two other vegetable gardens in Amsterdam North. As mentioned by the project manager (VGP-P2-01.05.18), the doctor went to the municipality to ask for another vegetable garden in the district Waterlandpleinbuurt (VGP-P2-01.05.18).

The municipality has given permission for the realisation of the vegetable garden, but responsibility has been disposed with the residents of the neighbourhood. To start the project, a subsidy has been granted from the municipality (*independence*) (VGP-P2-01.05.18).

As mentioned by the project manager, in first instance, a meeting has been organised for interested people in the neighbourhood who have registered in response to the posters. The meeting has been organized by the doctor. At this first meeting, they have immediately created a management team with four of the present residents. They did not vote for the composition of this team; the ones that were interested did all join the management team (*independence / representativeness*) (VGP-P2-01.05.18). A gardener, in the neighbourhood, then made a design for the vegetable garden with some input from the management team (*influence*) (VGP-R5-04.05.18).

The project has been promoted by its visibility in the neighbourhood, located next to the shopping centre in the Waterlandpleinbuurt, in addition the management team has distributed leaflets in the neighbourhood and an advertisement had been placed in the local paper (*methods*) (VGP-R5-04.05.18; VGP-P2-01.05.18).

Many residents are enthusiastic about the gardens, 40 residents have a plot on the vegetable garden (VGP-P2-01.05.18). Most of these residents have not been involved in setting up the project, which is mainly done by the management team (*influence, time of involvement*) (VGP-R4-04.05.18; VGP-R5-04.05.18; VGP-R6-30.05.18, VGP-P2-01.05.18).

During the project, residents are involved in the maintenance and organisation of the whole project. This is done, among other things, by organizing a joint vegetable-garden-day two times a year (Beheerteam Robina tuintjes, 2016; VGP-P2-01.05.18). During these days, the members of the garden work together on the maintenance of the garden. In addition, there are also member meetings and there is a possibility to participate or to get informed via WhatsApp, Facebook or by mail (*resource accessibility / methods / transparency / structured decision-making*) (VGP-R6-30.05.18; VGP-P2-01.05.18).

At the start of their participation, members had to sign a contract, composed by the management team (VGP-P2-01.05.18). This contract includes the joint responsibility for the management and maintenance of the gardens, agreements about gardening and an annual financial contribution is expected from every member (*task definition*) (Beheerteam Robina tuintjes, 2016). According to the project manager, the participation process is cost-effective. The garden costs something, but it gives a lot more; like vegetables and contacts. The project managers have given the responsibility to the residents, so the participation process is done by the residents themselves (*cost-effectiveness/ influence*) (VGP-P2-01.05.18).

### *Perception*

Table 3 shows the overall perception of the project manager and the interviewed residents about the distinguished aspects of the participation process, namely: representativeness, time of involvement, transparency / resource accessibility / task definition, methods / level, and finally their perception of the overall participation process. The aspects 'independence, structured decision making and cost-effectiveness' have not been outlined in table 2, since the perception on these aspects has not been discussed in the interviews. Besides, the aspect 'influence' is also not present in table 2, since the perception of the influence will be discussed in section 5.4.

The text in the table is an interpretation of the author on the information obtained in the interviews. Additional or clarifying quotes from the interviewees are mentioned below the table.

**Table 3: Perception of respondents about their participation 'De Waterlandjes'**

<p><b><i>Representativeness</i></b></p>
<p><i>Many different nationalities are involved in the project 'De Waterlandjes'; it is very multicultural. The respondents indicate that the residents that take part in the vegetable garden are representative for the rest of the neighbourhood, since the neighbourhood also consists of many different nationalities* (VGP-P2-01.05.18; VGP-R4-04.05.18; VGP-R5-04.05.18; VGP-R6-30.05.18) Everyone who wants to take part in the project can participate, if there are enough available gardens, otherwise you will be put on a waiting list (VGP-P2-01.05.18; VGP-R4-04.05.18). In addition, if a resident wants to participate he/she should know about the project, because people are not specifically invited except via neighbours or through an advertisement in the local newspaper (VGP-R6-30.05.18). The residents are enthusiastic about the fact that there are so many different nationalities participating; 'you can learn from other cultures' and 'on your own initiative you would not have that much contact with other people' (VGP-R4-04.05.18; VGP-R6-30.05.18).</i></p>
<p><b><i>Time of involvement</i></b></p>
<p><i>According to the project manager, citizens have to be encouraged to bring them to ideas and to make citizens active and enthusiastic, and that step has been taken by the doctor. There need to be a start, because that is what residents need**. Participation of residents, who were not part of the management team, became after the initiators distributed some leaflets in the neighbourhood (VGP-P2-01.05.18). A couple of residents have been involved from the start and took part in the management team, but most of the residents joined the project when the garden was built already (VGP-R5-04.05.18). Generally, the participating residents would have liked to know before about the project, because if they knew before they would have participated earlier in the project (VGP-R4-04.05.18; VGP-R6-30.05.18). Most of the participants have joined the project because they are informed about the project by acquaintances (VGP-R4-04.05.18; VGP-R6-30.05.18).</i></p>
<p><b><i>Transparency / Resource accessibility / Task definition</i></b></p>
<p><i>The respondents have different opinions about the transparency and task definition in the participation process. According to the project manager, there has been clear communication about decision-making and the plan, for example by the means of 'garden days' and member meetings (VGP-P2-01.05.18). In addition, at the start of a membership the resident should sign a contract of agreement about responsibilities of the garden and other expectations of members (VGP-P2-01.05.18; VGP-R4-04.05.18; VGP-R5-04.05.18). It could possibly be difficult for some cultures to follow and to understand (VGP-P2-01.05.18). Some of the residents indicate that they are kept informed by the management team or other means of communication (VGP-R4-04.05.18; VGP-R5-04.05.18). The management team is always attainable via WhatsApp or e-mail, and since a while there is also a Facebook page where comments or questions can be placed (VGP-R5-04.05.18). Resident 6 is not always informed about what has been decided and why. She also indicates that it is not always clear what is expected from her or what she can expect from others *** (VGP-R6-30.05.18).</i></p>

## **Methods**

*There are various ways in which people can be involved in the project. When the idea of the vegetable gardens had just arisen, a poster was placed at the service point of the neighbourhood to inform people about the idea, to make residents enthusiastic to participate and to make an inventory about enthusiasm for the idea (VGP-P2-01.05.18; VGP-R5-04.05.18).*

*One of the interviewees responded to this poster, and became part of the management team (VGP-R5-04.05.18).*

*Furthermore, residents were approached by means of leaflets and placing an advertisement in the local newspaper (VGP-P2-01.05.18; VGP-R6-30.05.18). The other two interviewed residents were involved in word-of-mouth reports from neighbours (VGP-R4-04.05.18; VGP-R6-30.05.18).*

*The residents are in general satisfied with the methods that have been offered to be able to participate (VGP-R4-04.05.18; VGP-R5-04.05.18; VGP-R6-30.05.18). Several times a year a garden-day is organized where members of the vegetable garden are working together on the maintenance of the vegetable garden. There are also member meetings and it is always possible to contact via Facebook, WhatsApp or the e-mail, these means of communication seem to work less well (VGP-R5-04.05.18; VGP-R6-30.05.18). The municipality did not interfere with the project and left the responsibility to the residents.*

## **Overall participation process**

*The residents are enthusiastic about the project and their participation. They are mainly positive about the fact that they got more contact with neighbours, they got to know new people and they are positive about working outside in the garden\*\*\*\* (VGP-R4-04.05.18; VGP-R5-04.05.18; VGP-R6-30.05.18). In addition, the project makes the neighbourhood more interesting and lively (VGP-R6-30.05.18).*

*A disadvantage that has been mentioned is that the municipality is not supportive towards the project; the municipality have plans to build a high-rise building at the park next to the garden, which will put the garden in the shadow. In this case the municipality does not show their support towards the project (VGP-R4-04.05.18; VGP-R5-04.05.18).*

*According to the project manager, it is important that there is a clear framework for the residents in which they can work independently. The disadvantage of the project is that the project is vulnerable; the project stands or falls with the enthusiasm and participation of residents. (VGP-P2-01.05.18)*

\* *"It is very multicultural, we have Turkish people, and Moroccans, an Italian and I think there is even an American." (VGP-R4-04.05.18)*

\*\* *"You have to offer something in which people can work pretty structured and independently." (VGP-P2-01.05.18)*

\*\*\* *"I have experienced that the management team does not have much experience with managing, so that could also be the reason for their shortcomings in communication. They were enthusiastic and they wanted to go for it, but they are no real 'vergadertijgers'." (VGP-R6-30.05.18)*

\*\*\*\* *"I think this project is great! I believe they should maintain and expand, because this is an excellent way to bring people together. This is especially important in times like these with a lot of fear." (VGP-R4-04.05.18)*

## 5.4. Power

The power of citizen participation will be outlined based on the influence and impact that citizens have had on the final interventions, and the level of participation. Besides, the results about how the project contributes to environmental health and how the participation process contributes to the social interaction in the neighbourhood will be explained. Finally, a reflection of the respondents about the influence that citizens have on the project will be outlined.

### *Physical interventions*

At the start of the project there were only a couple of residents involved. Yet, the design of the garden has been done by a local gardener, and the management team has had a voice in the division of the garden (VGP-R5-04.05.18; VGP-R4-04.05.18).

The residents would like to have more influence on the tower that will be built next to the garden. Some residents have tried to have some influence by collecting signatures of neighbours, but until now it did not have any impact (VGP-R4-04.05.18; VGP-R5-04.05.18; VGP-R6 -30.05.18).

As a member of the management team, resident 5 has a substantial influence on the development of the project and on changes in the garden. Most of the time such decisions are made by the management team and sometimes the other participating residents are asked for their opinion (VGP-R5-04.05.18). Resident 4 would had like to have more influence on the size of the garden, he thinks the garden plots are too small for more experienced gardeners (VGP-R4-04.05.18).

Together, residents take care of a more beautiful and liveable place where people come together and meet each other. *“That is the influence you can have when you participate in the vegetable garden project.”*(VGP-R6-30.05.18)

### *Health*

According to the interviewed residents, the vegetable garden contributes to residents' health. Because when someone has a garden with growing vegetables, he/she will make use of it as much as possible. The garden is focussed on organic gardening and no pesticides are allowed which takes care of healthy vegetables. Besides, participating in the project makes you physically active, because you need to move in order to maintain your garden.

So, the project contributes to your health by the means of nutrition and physical activity. (VGP-R4-04.05.18; VGP-R6-30.05.18)

In addition, the project has also a positive influence on mental health. Being outside and being in the sunlight and working in the garden with visible and eatable results has a positive effect on mental health (VGP-R6-30.05.18). Resident 5 mentioned that the garden makes her to go outside, to leave the house and to meet other people, even when she does not want to do or to see anyone. *"...and afterwards I am always happy that I have been at the garden; you meet many other people and talk to different people. It helps you to get in touch, to go outside and to be healthy."* (VGP-R5-04.05.18)

The project does not only have a positive effect on residents that participate but also on people passing by or children that are interested. In that way, the project has also an educational function: *"children observe that a carrot does not grow in a plastic bag in the supermarket, but that a carrot grows in a garden."* (VGP-R5-04.05.18)

### *Social interaction*

As mentioned by the participants, the participation project influences the social interaction in the neighbourhood for sure (VGP-P2-01.05.18; VGP-R4-04.05.18; VGP-R5-04.05.18; VGP-R6-30.05.18). Especially the common garden days have influence on the interaction with neighbours. It is difficult to say if the complete neighbourhood interacts differently or if it creates a different atmosphere, because the project is too small for that. But it is an 'example-project' that shows fun and solidarity because of citizen participation. (VGP-P2-01.05.18)

In addition, the project contributes to social cohesion because people get to know each other and tell each other about their norms and values. *"I do sometimes ask Turkish people where they have learnt their good gardening, and then they tell a whole life story."* (VGP-R4-04.05.18)

According to resident 4, just getting to know each other will strengthen the social cohesion, and that is what he saw happening in this project. People interact with each other in a nice way, which makes him feel connected, comfortable and no stranger for others. (VGP-R4-04.05.18)

In addition, resident 5 indicates that people in the neighbourhood do not only get to know each other, but also more and more people pass by and are interested in what they are doing. In that way, she thinks, the project has also a positive effect on the neighbourhood (VGP-R5-04.05.18). The participation project creates a network in the

neighbourhood, which makes residents feel like being part of the neighbourhood (VGP-R4-04.05.18; VGP-R6-30.05.18).

### *Reflection*

The project manager is satisfied about the influence of the residents on the project (VGP-P2-01.05.18). The residents themselves are generally also satisfied about their influence (VGP-R4-04.05.18; VGP-R5-04.05.18; VGP-R6-30.05.18), though they do have some comments on their influence. According to resident 4, especially the ones in the management team have influence on the project. He is not sure about his own influence because he did not test it, but he would like to have some more influence for example on the size of the gardens (VGP-R4-04.05.18). Resident 5 is content about her influence and impact on the developments in the project, because she is part of the management team. But she would like to see some of the participants more involved and responsible, because now it feels like the management team must do everything (VGP-R5-04.05.18).

Finally, resident 6 mentioned that she would like to have more influence but then she should be part of the management team and that will take more time which she does not want (VGP-R6-30.05.18).

## 5.5. Summary

This project can be characterized by a bottom up approach, initiated from the neighbourhood level. This project is dependent on participation of residents, so it would not exist without citizen participation. The purpose of the project and especially the participation is to connect local residents, to stimulate the health of the neighbourhood by the means of promoting a healthy lifestyle, liveability and more cooperation in the neighbourhood. Another important reason for citizen participation in this project has been the empowerment of the residents in the neighbourhood.

Since the project could not exist without residents, residents have been involved in this project from the start. The project has been promoted by a poster at the service point of the neighbourhood and an advertisement in the local paper. Besides, the garden is also promoted by its visibility in the centre of the neighbourhood. Everyone can join the project. According to the interviewees, the participating residents are representative for the rest of the neighbourhood.

There is only a small group of residents with the responsibility to make decisions and changes, which is the management team. The other members do not feel like they have a say in the project development. Yet, all the members have signed a contract including rules to be responsible for the maintenance of the garden. Although the municipality has given subsidies for the construction of the garden, the citizens do not feel like the municipality supports the project enough,

The project and the participation of the residents contribute to several health aspects, according to the residents. The project contributes to physical activity, healthy food and mental health. The garden does not affect the social cohesion of the total neighbourhood but the project has a positive effect on the social interaction among the participating residents.

# 6. *Renewal Eendrachtsplein* (*Amsterdam*)

## Case 3



This chapter presents the results of the case study '*Renewal Eendrachtsplein*'. First some general information and important aspects of the specific project in relation to this research will be described, followed by the results of the case study. The results will be outlined based on the main subjects of the sub questions; the purpose, process and perception, and power.

## 6.1. Project description

The board of the district Nieuw-West in Amsterdam has given citizens the opportunity to come up with plans and ideas for improvement or renewal of public spaces within the district by an online forum 'De Stem van Nieuw-West'. The plan of a resident (manager of the kiosk in the park) to renew Eendrechtspark has received over thousand votes and will be addressed. Several parks in Amsterdam have been renewed or renovated, but as mentioned by one of the residents, Eendrechtspark has not received attention since a while and has been described as an unattractive park. For example, the park has hardly any lighting and visibility is blocked by bushes, which creates feelings of unsafety.

Eendrechtspark is located in the city district Nieuw-West (Figure 11) in the neighbourhood Geuzenveld-Slotermeer. The park is enclosed by residential areas on each side (Figure 12). The area of the park is approximately 60.000 square meters.

The proposal of the resident is to provide more lighting in the park, remove bushes and replace them by grass, to create a playground for the children and sports equipment for adults and the elderly, and to construct a football field next to or instead of the tennis court that is hardly used. The board of New West has accepted this plan and they

are now working on the plan to improve the park together with residents. The first improvements will be implemented this year.

The renewal of Eendrachtspark is included in the total renewal of the neighbourhood, as part of the investment approach 'Ontwikkelbuurten Nieuw-West'. This investment approach is collaboration between the municipality and housing corporations, to implement the renewal of the area in cohesion. This will be a long-term approach. (Gemeente Amsterdam, 2018)

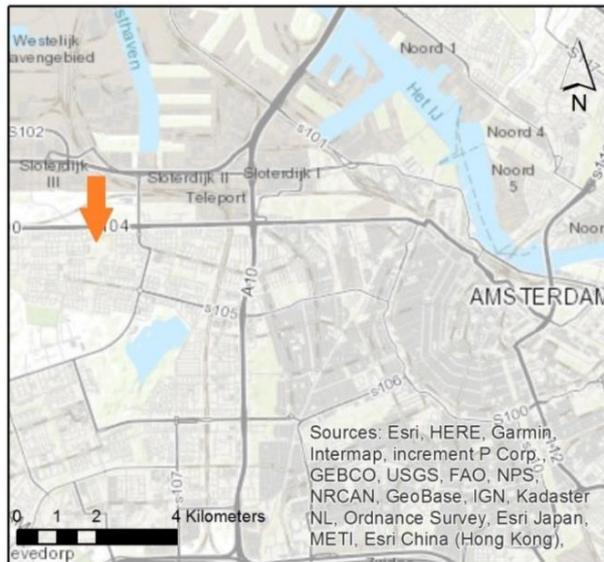


Figure 11: Overview case 3, Amsterdam



Figure 12: Project area case 3: Eendrachtspark

To prevent that nothing will be undertaken in the park during the planning process, sessions will be organized in the park during the spring and summer of 2018. Possible improvements that can already be made will be explored during these sessions with the project manager, residents and others involved in the park. Civil servants of management and design of public space will advise on what is possible and what is not. The focus during these sessions is on what residents and users of the park can do to improve the park.

According to the residents of the neighbourhood, there is fear of criminality, although there is not that much crime, there are sometimes problems, but that is almost everywhere. The area has been described by residents as a green and spacious neighbourhood. The population is multicultural but not mixed; the different cultures and nationalities are not spread across the district but clustered. (RE-R7-30.05.18; RE-R8-30.05.18)

This project is different from the other two projects when it comes to the timespan of the project. The duration of this project is from the start to the realisation about one year while the other projects cover several years. The timespan of this project has possibly influenced the participation process, and is therefore important to consider in the results.

## 6.2. Purpose

In this part, the purpose and the reason of citizen participation in the project 'Renewal Eendrachtsplein' will be outlined.

The project started with a resident who proposed his plan to the municipality. An enthusiastic employee of the municipality eventually ensured that the plan received attention from the municipality. The reason why citizen participation plays a prominent role in this project is that the plan initially came from the neighbourhood. Not only the resident who took the initiative supported this plan, but more than 1000 people from the neighbourhood voted for this plan. (RE-P3-30.05.18; RE-R7-30.05.18)

The involved employee of the municipality wanted to prevent that municipality would take over the whole project and that the municipality would say: *"thank you for your idea, we will elaborate the plan and you will hear from us"*. That is why the involved employee of the municipality (project manager) has chosen to start cooperation with the residents (RE-P3-30.05.18). In addition, the project manager is convinced about the fact that a better design will be reached when users of the park will be involved in the process, because they are the ones who experience the problems and the ones who want to improvement. In addition, participation of residents should ensure more concern and control about the park. According to the project manager, by talking to these people it is possible to find out what works and what does not work. The goal of citizen participation in this project is therefore to develop a better park and to gain more insight into how the park functions. (RE-P3-30.05.18)

### 6.3. Process and perception

The results about the participation process will be outlined, based on the *methods* of participation and the evaluation criteria (Rowe & Fewer, 2000) as mentioned in the theoretical framework: *representativeness, independence, time of involvement, influence, transparency, resource accessibility, task definition, structured decision making, and cost-effectiveness*. In addition, the perception of the interviewees about several aspects of the participation process will be outlined.

#### *Process*

In 2017, a resident submitted a plan at 'De stem van Nieuw West' ('The voice of New West') and received a lot of votes from other residents of the neighbourhood. This was the first step of citizen participation in this project (*method*). This resident, who submitted the plan, is also the manager of the Kiosk which is located in the park (*representativeness, time of involvement*). Subsequently the municipality discussed about what should be done with this plan. After a couple of months without decisions about the plan, the project manager decided that this project had to be implemented and he wanted to ensure that there will be attention for this project instead of nothing would happen for months (*structured decision making*). According to the project manager, normally projects are well organized, but because this plan is an initiative of citizens it is all a bit vague and there is no clear structure in the project (*structured decision making*) (RE-P3-30.05.18). Because the renewal of Eendrachtspark could make use of a financials that should be designed and realised before the end of the year, there is some pressure on the project and decisions should be made fast (*resource accessibility*) (RE-P3-30.05.18; RE-R7-30.05.18; RE-R8-30.05.18).

The submitter of the plan was already involved in the project since the municipality contacted him. Subsequently, the project manager approached another resident to take care of the design of the renewal of Eendrachtspark. The project manager knew this resident from another project in which he did the design part. According to the project manager, this was a good decision because he lives close to the park (*representativeness, independence, time of involvement*) (RE-P3-30.05.18).

The project manager and the designer organized a first meeting session with more people of the neighbourhood to think and to brainstorm about the park, issues and ideas. Some neighbours, the manager of the Kiosk, the designer and the project manager have come together to make an analysis of the park (*methods, representativeness, independence*) (RE-P3-30.05.18; RE-R7-30.05.18). In addition, a second session has been organised. Because

the manager of the Kiosk distributed some leaflets in the neighbourhood about his plans, there were many curious people, besides there was a neighbourhood-meeting right before, which ensured a high attendance of the second session. In this session, there has been talked about parking problems, a plan for the Kiosk and about a new design for the whole park (*method, representativeness, independence*) (RE-P3-30.05.18).

Later, a festive reopening of the Kiosk has been organized. The municipality and the designer used this event to do some interviews and to fill some forms with people who were interested in the renewal plans. In addition, they have been present at the 'Koningsspelen' which took also place in the park. During this event, some questions about 'what is missing' or 'what changes should be made in the park' have been asked to children of nearby schools (*methods, representativeness*) (RE-P3-30.05.18; RE-R7-30.05.18; RE-R8-30.05.18).

The municipality has given the responsibility for citizen participation to the designer (*independence, task definition*). Since the designer is also a resident, he is in close contact with other residents which makes it easy to engage in conversation (RE-P3-30.05.18). Subsequently, the designer organised several sessions with interested people invited by the designer or via others (*methods, representativeness, independence*). Together they have discussed and created a design for the renewal of Eendrachtspark (RE-R7-30.05.18; RE-R8-30.05.18). This ensured only a small group could participate, because not everyone was informed about the progress and the sessions. The municipality is planning to send a letter to all the residents living around the park to inform them and to give the opportunity to react on the plans (*representativeness, time of involvement*) (RE-P3-30.05.18).

The plans that have been designed by the residents themselves have been presented to the municipality, because they should make the final decisions. Most of the plans have been approved by the municipality, yet, not everything can be implemented because of financial limitation; some plans will be carried out in other trajectories and some of the plans will be realised at a later stage (*structured decision making, influence, resource accessibility*). (Personal contact, 2018)

According to the project manager citizen participation has absolutely been cost-effective. Since the designer is also a resident he wanted to make the design at low cost and he put quite a lot of work in it because it is also for his own interest (*independence*). If the municipality had to hire a professional designer it would had cost a lot more, in that way it has been worth it and citizen participation has been mentioned as cost-effective (*cost-effectiveness*) (RE-P3-30.05.18).

*Perception*

Table 4 shows the overall perception of the project manager and the interviewed residents about the distinguished aspects of the participation process, namely: representativeness, time of involvement, transparency / resource accessibility / task definition, methods / level, and finally their perception of the overall participation process. The aspects 'independence, structured decision making and cost-effectiveness' have not been outlined in table 2, since the perception on these aspects has not been discussed in the interviews. Besides, the aspect 'influence' is also not present in table 2, since the perception of the influence will be discussed in section 6.4.

The text in the table is an interpretation of the author on the information obtained in the interviews. Additional or clarifying quotes from the interviewees are mentioned below Table 4.

**Table 4: Perception of respondents about their participation Renewal Eendrachtsplein**

<p><b><i>Representativeness</i></b></p>
<p><i>The group of participants is not representative for the rest of the neighbourhood (RE-R7-30.05.18; RE-R8-30.05.18). The participating residents are all quite Dutch, although the rest of the neighbourhood is very multicultural (RE-R8-30.05.18). This is due to the way the participation has been applied. Besides, there are also a lot of people that do not want to participate or people that are not able to participate because of language barrier for example. If it is important to involve more people in the project, other forms of participation should be used (RE-R7-30.05.18). Resident 7 indicates that he knows the shortcomings in the participation process and takes that into account. He thinks that for many people it does not matter that much what is going to change in the park (RE-R7-30.05.18).</i></p>
<p><b><i>Time of involvement</i></b></p>
<p><i>In fact, citizens have been continuously involved. The project started with the citizens because a resident submitted a plan and other residents vote for this plan, from that moment on citizens were continuously involved (RE-P3-30.05.18). After the municipality decided to do something with those plans, the designer has been asked to do the design of the renewal of Eendrachtsplein. The designer was enthusiastic but he also wanted to involve more residents, so he invited other neighbours to join the sessions. The designer will be involved till the end of the project*. (RE-R7-30.05.18)</i></p> <p><i>Most of the other involved residents join the project from the first or second session that has been organized. There is a group (around 10 people) of residents closely involved in the design of the park; they are also called 'park ambassadors'. Resident 8 is positive about the fact that she has been involved since the first session (RE-R8-30.05.18). Most of the ambassadors will stay involved till the end of the project and they will maybe help with some executive tasks (RE-P3-30.05.18).</i></p>
<p><b><i>Transparency / Resource accessibility / Task definition</i></b></p>
<p><i>The project manager indicates that the structure of decision-making could have been better. There was not a good structure and the municipality did not have enough attention for this project. Within the municipality the necessary people were not available or they did not make enough time for the project. The project manager would have liked to see that they could offer and provide faster toward the residents. (RE-P3-30.05.18)</i></p> <p><i>The municipality tried to be as transparent as possible and tried to keep the residents up to date which is not always easy. The project manager mentioned that he still needs to send a letter to all the local residents about the plans. (RE-P3-30.05.18).</i></p> <p><i>In terms of resource accessibility, there is little time to finish the whole project, which is mainly a problem for the official affairs (RE-P3-30.05.18; RE-R7-30.05.18; RE-R8-30.05.18).</i></p> <p><i>The residents could always contact the project manager by e-mail or phone if they have questions about the project (RE-P3-30.05.18; RE-R7-30.05.18; RE-R8-30.05.18). Nevertheless, besides contact with the project manager, there has been little contact with the municipality during the project (RE-R7-30.05.18; RE-R8-30.05.18).</i></p> <p><i>The residents would have liked to see that there has been more contact from the municipality and that they responded more quickly**. Because the designer was sometimes depended on knowledge of the municipality, he sometimes had to fill in things by himself what the municipality should have delivered. In addition, it created uncertainty about what is possible and what is not possible. (RE-R7-30.05.18; RE-R8-30.05.18)</i></p>

## Methods

*Different methods have been used to let citizen participate in the project. Some residents have been involved just by voting for the project, others have shared their opinion by a conversation with the project manager or the designer and others have participated in the sessions as park ambassadors \*\*\*(RE-P3-30.05.18; RE-R7-30.05.18; RE-R8-30.05.18).*

*The designer is the resident with the most responsibility; he was responsible for the final design and he was also responsible for the participation process. He designed the participation methods by himself and he is satisfied about the methods he used (RE-R7-30.05.18). During several sessions, people had the opportunity to discuss and to share their opinion and ideas (RE-R7-30.05.18; RE-R8-30.05.18). The participating residents are enthusiastic about the methods that are available to participate in the project (Van der Woerd, 2018).*

## Overall participation process

*The project manager himself indicates that the municipality should have been more involved in the project (RE-P3-30.05.18). This is confirmed by the residents (RE-R7-30.05.18; RE-R8-30.05.18). According to the designer, the ambition of the municipality does not match with what they can offer; they really want to encourage bottom up projects. To be able to facilitate the process effectively, a professional from the municipality is needed; someone with enough knowledge and available information about the project. In addition, the municipality is limited by rules and legislation, which means that processes take a lot of time while there is less. (RE-R7-30.05.18)*

*The designer is very satisfied about the sessions and the park ambassadors. The ambassadors are very enthusiastic which ensures good and quick results (RE-R7-30.05.18). Other residents are happy about the attendance of the sessions and they like to contribute in this way to the design of the park (Van der Woerd, 2018).*

*Resident 8 would have liked to have something like a brainstorm session in the beginning of the process, to have more time to share some creative ideas. She did like the way she could participate in the sessions (RE-R8-30.05.18).*

- \* *"Although my offer continuous until the final design, I have offered to keep an eye on the project because in the translation from design to technical execution many things can get lost and wrong decisions can be made". (RE-R7-30.05.18)*
- \*\* *"It would have been nice to do this project really together with the municipality. I would have liked to meet regularly with the department Environment and Sustainability, which would have saved me a lot of time and effort". (RE-R7-30.05.18)*
- \*\*\* *"These methods have been used because you have to be where the people are. So, it is the best way to let a user of the park, participate in the park, that reduces the step to participation. And I think it is easier to keep people involved when they are approached in an informal way."(RE-P3-30.05.18)*

## 6.4. Power

The power of citizen participation will be outlined based on the influence that citizens have had on the final interventions, and the levels of participation. Besides, the results about how the project contributes to environmental health and how the project contributes to social interaction in the neighbourhood will be explained. Finally, a reflection of the respondents about the influence that citizens have on the project will be outlined.

### *Physical interventions*

Participation of residents has taken care of more insight of the park, what people think about the park and how the park is used. It has produced a lot of information which can be used to tackle the problems of the park and to let the park revive. Residents have had influence and impact on the design and on which problems should be tackled. Besides, the designer did also had influence on the complete process of participation; he was asked to formalize the participation process. They only did not have any influence on the available money for the project because that has been set by the municipality. (RE-P3-30.05.18)

The project manager is satisfied about residents' influence and impact on the project. He even mentioned that the municipality should maybe have more influence than they finally have had on the project; the municipality was maybe too absent in the project. (RE-P3-30.05.18)

Residents certainly have the feeling that they have had impact on the project. The designer has had influence on the participation process and as a result also on the final design. Besides, he is the one who made the drawings; something the municipality has entrusted to him. Unfortunately, he did not have any influence on the acting and communicating of the municipality and the speed and structure of the process. (RE-R7-30.05.18)

Resident 8 is content about the impact she could have on the project, but you always should make compromises because there are a lot of voice to be heard. In her opinion, the designer did a good job and has listened to everyone (RE-R8-30.05.18).

After the approval of the municipality almost everything that has been conceived by the residents is visible in the final design. Only a couple of things cannot be implemented because of financial limitations (Personal contact, 2018). The residents are dependent on the municipality how and which plans will finally be realised (RE-R7-30.05.18).

### *Health*

This project can contribute to the liveability and health of the neighbourhood because it will all become tidier, cleaner, and functions of the park will be clearer. The renewal would not be able to solve the bigger problems like criminality, but since the park will be more open by removing some bushes it will hopefully become more safe (RE-R7-30.05.18; RE-R8-30.05.18).

Besides creating a cleaner and safer environment, the project gives also attention to sports by creating a new football field, fitness equipment for adults and a running track. All of this should attract people to go outside and to become more active (Gemeente Amsterdam, 2018).

### *Social interaction*

The designer thinks the participation in the project does not have so much influence on the social interaction in the neighbourhood; the group is too small and the time too short to have influence. It has some influence on the group that participates because they get to know each other, but he thinks that is negligible in neighbourhood (RE-R7-30.05.18).

Resident 8 has discovered some changes in social interaction; in the beginning the process went a bit slow because they did know each other very well, but during the project they got to know each other better and better. She also mentioned that she feels safer when she knows more people in the neighbourhood. Nevertheless, she thinks the participation process does not have so much influence on the social cohesion in the neighbourhood. (RE-R8-30.05.18)

The project manager on the other hand, thinks that the participation in this project has influence on the social interaction between residents. He thinks that the meetings, seeing each other regularly, getting to know each other and creating something together will contribute to the connectedness in the neighbourhood (RE-P3-30.05.18).

### *Reflection*

All the interviewed people are satisfied about the participation process. Both the citizens and the project manager are satisfied about the influence of the citizens in this project (RE-P3-30.05.18; RE-R7-30.05.18; RE-R8-30.05.18). The participating residents have been given a lot of responsibility and trust by the municipality (RE-R7-30.05.18). Yet, residents as well as the municipality think that the municipality should have given more attention to project and more communication and responsibility of the municipality is desired (RE-P3-30.05.18; RE-R7-30.05.18).

## 6.5. Summary

The project 'Renewal Eendrachtspark' started by an initiative of a citizen. This initiative has been supported by many other residents in the neighbourhood, though they were still dependent on what the municipality would do with this idea. Luckily, there was one enthusiastic official who ensured that the plan received attention from the municipality. To prevent the municipality would take over the whole plan, citizen participation has been given a prominent role. According to the project manager, residents' experience and knowledge of the area will contribute to a better design and more insight into how the park functions. Besides, citizen participation should contribute to the connectedness of residents in the neighbourhood.

One resident, already known by the municipality, has been asked to do the design of the park. In addition, he also got the responsibility for the participation process in this project. He invited neighbours to join sessions to discuss the problems and the design of the park. This group of participants was far from representative for the neighbourhood according to the respondents. Besides, residents have been involved by conducting interviews with visitors of the park. All the ideas and opinions have been included by the designer in the final design.

Except from the effort of the project manager, the municipality was lacking during the design process and less contact with the municipality has taken place, despite questions from the residents.

The participating residents have had a lot of influence and impact on the final interventions, together they designed the whole park. Yet, they did not have any influence on the available money for the project. Besides, the project can contribute to health promotion by a cleaner and safer park, besides fitness equipment will be placed and a football field and running track will be created.

The park stimulates social interaction, but the participation process did not contribute so much to the social cohesion of the residents, therefore the project is too small and the time is too short.

Overall, the participating residents are satisfied about their participation in the project.

# 7. Discussion

In this chapter, the results as presented in chapter 4, 5 and 6 will be discussed in the light of the scientific objective (*to analyse how citizen participation concerning physical interventions contributes to healthy living environments in vulnerable Dutch neighbourhoods*) and the sub questions. First, the most striking results of the three cases will be compared. Subsequently, each of the four sub questions will be answered and discussed by means of the theoretical framework and additional literature.

## 7.1. Comparison cases

As mentioned by de Vente et al (2016), the results of participatory processes in environmental projects like strategies, plans, social learning or physical interventions of solutions are highly dependent on the process design, and the socio-cultural, institutional and environmental context of the implementation. Therefore, the most striking results will first be discussed in the light of the fundamental differences between the projects of the multiple case study.

### *Project differences*

One important difference between the studied projects is the size of the projects. Case 1 (NPD Strook) and case 3 (Renewal Eendrachtspark) have a more similar area size, respectively 30.000 m<sup>2</sup> and 60.000 m<sup>2</sup>, than case 2 (Vegetable garden) with a surface of around 500 m<sup>2</sup>. It has been assumed that the scale difference of the projects can contribute to different participation approaches and results. Besides, case 2 differs from the others in the fact that it is a continuing project, the garden is a physical intervention but after the realisation of the garden, the vegetable garden is used and maintained by residents of the neighbourhood, which ensures a different focus on citizen participation. Case 3, on the other hand, has a short time span in relation to the other cases. The last striking difference to consider in the discussion of the results is that case 1 has been initiated top-down, which means that the municipality had the initiative in this project, while case 2 and 3 have been initiated bottom-up. Therefore, citizen participation in case 1 is fundamentally different from the others, which should be considered in the discussion of the results.

The most important differences between the cases in relation to the research are presented in [Table 5](#).

**Table 5: Comparison cases**

	<b>Case 1</b> NPD Strook 	<b>Case 2</b> Vegetable garden 	<b>Case 3</b> Renewal Eendrachtspark 
<b>Difference</b>			
<b>Project area (size)</b>	30.000 m2	500 m2	60.000 m2
<b>Timespan (participation process)</b>	2-3 years	Continuing	Less than 1 year
<b>Management</b>	Top-down	Bottom-up	Bottom-up

In the light of the above-mentioned differences between the studied cases, remarkable results of the cases will be compared.

### *Purpose*

Despite the differences of the cases, the purpose of citizen participation is generally the same in the projects. Local and specific knowledge and legislation are mentioned as important reasons for citizen participation. In addition, several advantages are mentioned such as bringing residents into contact with each other, creating a better result and better meeting the demand of the neighbourhood. Yet, case 2 and case 3 did also mention empowerment of residents as one of the purposes of citizen participation, while this purpose has not been mentioned by the project manager of case 1. This difference has probably to do with the top-down approach in case 1, since the starting point of a top-down approach is the decision of the authority and specialists and involved actors are mentioned as most relevant to produce the desired effects (Isidiho, 2016).

### *Process and perception*

A major difference between case 1 (NPD strook) and the other cases, is visible in the participation process. It turns out that participation process of the NPD strook is much more structured than the participation processes of the vegetable garden De Waterlandjes and the Renewal Eendrachtspark. This structuring ensured several moments of involvement for local residents by different methods. It is striking that despite this clear structure and the opportunities for participation, the local residents have had little influence in decision-making. This could be due to the fact, mentioned by Isidiho (2016), that top-down approaches have an assumed structured plan and design, cost and implementation period for projects without considering the variances in sociocultural and environmental situations in locations. In other words, using the UPP, the process may not be adapted to the local situation, environment and culture. Besides, little influence may have been partly due to the methods and level of participation; which has been mainly on the level of informing. On the other hand, the three external parties (representatives of the elderly, students and the district council) could have a major influence on the final interventions, according to their own statements. They also explicitly stated that it is difficult for laymen to make their voice heard and to be involved in the process. The other two projects were little structured; case 3 was even called chaotic. Nevertheless, the residents have had influence on the project and the respondents are generally satisfied about their input and the process.

An interesting aspect that came up for discussion in the interviews was the representativeness of the participants in the projects. For case 1 and 3 they unanimously agreed that the group of participants is not representative for local residents. Both projects would like to have a representative group but at the same time wonder whether this is necessary. In case 2 it is indicated that the participants are a representative reflection of the local residents, and the respondents did also emphasize the importance and the positive effect of a representative group.

### *Power*

Finally, there are notable differences in influence and impact of participants on the project between the top-down and bottom-up projects. In the bottom-up projects, citizens have participated at higher levels than citizens in the top-down project. In addition, participating citizens in the bottom-up projects have made major changes in the project, while participating citizens of the top-down project only had impact on some aspects of the project.

In the following sections, the results will be discussed more specifically in relation to the sub questions, considering the mentioned fundamental differences of the projects.

## 7.2. Purpose

In this section the first sub question will be discussed: *What is the **purpose** of citizen participation concerning physical interventions for healthy living environments in vulnerable Dutch neighbourhoods?*

In two projects (case 1 and 3) it has been emphasized that participation of locals is important because it can contribute to local and specific knowledge of citizens and residents for better meeting the demand of the neighbourhood. This is in line with Corburn's thoughts about local knowledge; local knowledge can identify risks and bring new research questions to attention that professionals may ignore, it can provide new and specific data, involve difficult-to-reach populations, and it can expand possibilities for interventions (Corburn, 2005). Therefore, this purpose can make a worthy contribution to a project by sharing experiences and local knowledge. Yet, it is interesting that case 1, with a top-down approach, emphasizes the importance of local knowledge, since several studies (Pople, 1995; Khadka & Vacik, 2011; Isidiho, 2016) concluded that top-down approaches are based on a team of experts and participation processes are therefore more focussed on trust-building to ensure security and sustainability for the development of the project. Besides, several benefits are mentioned in all projects, such as bringing residents into contact with each other, creating a better design / result and better meeting the demand of the neighbourhood. On the other hand, it has also been mentioned by project managers/ initiators (case 1, 2) that citizen participation has been applied because it is mandatory by law. It is interesting that this has been mentioned as reason for participation because it does not emphasize the importance of citizen participation in their projects, since it is not their own choice.

Case 2 and case 3 indicate that participation has the purpose to give the neighbourhood the responsibility and the power over the project, which means that residents should manage and maintain the project. This can be linked to empowerment as described by Laverack (2006, p. 113): *"the process by which relatively powerless people work together to increase control over events that determine their lives and health"*. As mentioned by Doornis and Heritage (2013), by giving people more control over their own lives and environment they will become more concerned and involved in developments in their neighbourhood, and it stimulates contact with neighbours which has been positively associated to health. This is also visible in the results of the multiple case study; in case 2, where empowerment of residents has been achieved, the estimated health outcomes and contact with neighbours is significantly higher than in case 1, where participation of residents remained at a low level (see section 7.4.), even though support of the neighbourhood has been an important purpose in case 1. It has also been mentioned by participants of case 2 that collaborative management stimulates personal health.

### 7.3. Process and perception

In this section, the second and third sub question will be discussed.

The second sub question concerns the effectiveness of the participation process: *What is the effectiveness of the **process** of citizen participation concerning physical interventions for healthy living environments in vulnerable Dutch neighbourhoods?*

This sub question has been investigated based on the evaluation criteria (except for the influence, this will be discussed in the section 7.4 Power) by Rowe and Frewer (2000), methods of participation and level of participation (ladder of participation by Arnstein, 1969), as mentioned in section 2.3, and will therefore be discussed on the basis these aspects.

In addition, the third sub question will discuss the perception of participating citizens: *What is the **perception** of participating citizens in vulnerable Dutch neighbourhoods on the participation process of physical interventions for healthy living environments?*

This sub question concerns the perception of the citizens in relation to the participation process and their participation within the project. An important aspect for this question is citizens' opinion about their participation. For this question, the evaluation criteria by Rowe and Frewer (2000) can also be used to give direction. Finally, the overall perception of citizens about their participation will be discussed.

#### *Criterion of representativeness*

As mentioned in the theoretical framework (chapter 2), the need for representative participants has been emphasized in the literature by several scientists (Rowe & Frewer, 2000; Bizjak, 2012; van Beckhoven et al, 2009; Hurlbert & Gupta, 2015; Reed et al, 2017): *"The public participants should comprise a broadly representative sample of the population of the affected public"* (Rowe & Frewer, 2000, p. 12).

Irvin and Stansbury (2004), emphasized in their article that citizen participation committees are usually mainly represented by members of the top socioeconomic group. Low income residents are difficult to involve because their main priorities are to take care of their families and not spend time in meetings, as shown in Russell and Vidlers' study (2000). *"Thus, although many promote community participation as a way to incorporate community*

*values into decisions that might otherwise be dominated by a small elite, it appears that another small, nonelected elite can dominate the participatory process”* (Irvin & Stansbury, 2004, 59).

This study confirms the lack of representativeness; in case 1 and 3 it is emphasized that the group of participants is far from being representative for the users and residents around the project area. Few attempts have been made to achieve representativeness because this increases support and completeness of information. Yet, this study concludes different reasons for non-representativeness. According to respondents, representativeness could not be achieved because of culture- and language-barriers. In addition, it has been mentioned that not every population group wants to participate and that only the above-average interested parties take the effort to participate. Besides, participating residents are generally the people in the higher social classes of the neighbourhoods. This confirms the statement by Rowe and Frewer (2000), that the ignoring of poorer groups or segments of society should receive more attention. At the same time, little effort is made to ensure the representativeness of the group. For example, in case 1 the municipality choose the people who they considered to be necessary, and in case 3 the participants have mainly been involved via other involved residents, which does not take care of a variety of the group. No extra effort has been made to reach other groups that are still missing in the process. As a consequence of non-representativeness, it has been mentioned (by case 1 and 3) that some voices are not included, which could result in negative reactions on the project. At the same time, it has been questioned by respondents of case 1 and 3 if public participation should always be necessarily representative, since not every voice is relevant in every project.

Although several scientists (Rowe & Frewer, 2000; Bizjak, 2012; van Beckhoven et al, 2009; Hurlbert & Gupta, 2015; Reed et al, 2017) emphasize the importance of representativeness to achieve high valued results, Reed et al (2017), argues for strategic representation instead of complete representation based on levels of interest, influence and benefit. *“By effectively representing key actors who can affect or who are likely to be affected by decisions arising from the engagement process, the decision is more likely to reflect the views of those who have to implement it”* (Reed et al, 2017, p. 6). This could be an answer for case 1 and 3 on questioning the need of representativeness; not every single group or culture needs to be represented but it should be ensured that people that are likely to be affected are represented and considered. The involved people should be dependent on the goal of the project and the purpose of participation. Since case 1 and 3 are focussed on improvement of the neighbourhood and local knowledge has been mentioned as purpose for citizen participation, a representative group of participants is relevant in these cases.

For case 2 it has been indicated that the participation group is representative for residents in the neighbourhood. The reason why this group is more representative than the other cases could be because it is a practical project

with no culture or language barrier, which makes the project easily accessible. This representativeness was not present in the start-up of the project, where culture and language could have been a barrier.

#### *Criterion of independence*

As mentioned by Rowe and Frewer (2000, p. 13), *“the participation process should be conducted in an independent, unbiased way”*. This independency can for example be obtained by constitution of a steering committee or management team including members from neutral organizations. None of the studied cases has made use of an independent organization to organize the participation process. In contrast, the participation process and the participants are in each of the cases very dependent on the organisers; the municipality in case 1 and a couple of residents in case 2 and 3. This has partly ensured that certain groups have not been reached and sometimes objectivity is missing. In that respect, it can be concluded that representativeness in these cases is highly dependent on the independency of the participation process.

#### *Criterion of early involvement*

According to Kahlila-Tani (2016), several studies have verified that early involvement builds consensus, especially during the phase where value judgements are formed. It has also been mentioned by Rowe and Frewer (2000, p. 14) that *“the public should be involved as early as possible in the process as soon as value judgements become salient”*. The results of this study show that in all the three cases citizens have been involved in an early stage in the project. The problems of the projects have been defined by or together with residents, so implementations are not based on predefined problems without public participation. However, in case 1, the municipality decided in first instance that housing was needed based on the housing market, without any form of participation. As mentioned by Isidiho (2016), a predefined project by the authority is not time consuming for the development process, and therefore more focus can be put on the participation process. This is also visible in the project of case 1; from the moment that the SPvE has been determined, there have been continuously moments of citizen involvement (Figure). Overall, the interviewed citizens of the three cases are satisfied about the time of involvement.

#### *Criterion of transparency*

*“The process should be transparent so that the public can see what is going on and how decisions are being made”*, according to Rowe and Frewer (2000, p. 15). Being transparent about the process towards participants or involved parties seems to be a difficult task for authorities and initiators during the project. In all the three cases, it has been

mentioned by residents that there is lack of transparency about the project during process towards residents. Despite many options to keep citizens informed about the progress of the project (information letters, websites, neighbourhood platform, presentations, etc.), according to residents it is often difficult to follow the process and the decisions that are taken. From the interviews in case 1 and 2, it can be concluded that there is transparency but that residents themselves must put a lot of effort to gain insight in the project. So, it could be questioned whether the communication towards participants is transparent since it is difficult for the layman to stay informed.

For case 3, the process has mainly been managed by residents, which has been transparent towards other interests. The municipality on the other hand was not transparent towards the residents, which can be explained by the lack of involvement and interest.

#### *Criterion of resource accessibility*

In addition to the transparency of the process, *“public participants should have access to the appropriate resources to enable them to successfully fulfil their brief”* (Rowe & Frewer, 2000, p. 15). This is not only about information resources but also about human resources, material resources and time resources. According to Rowe and Frewer (2000), restrictions of these resources could influence the quality of the participation process. In all the cases it has been mentioned by residents that there is lack of resource accessibility. The three externals in case 1, have been kept informed and they also emphasize that they have had enough possibilities to participate. At the same time, it has been mentioned that they have been chosen to play an important role in the participation process which gave them the access to the needed resources, while the layman does not have these possibilities. It has been suggested by Isidiho (2016), that top-down projects have a more effective use of resources by using professional expertise to mobilize, co-ordinate and interpret community options, this can be confirmed by the results of case 1. On the other hand, this study shows that a top-down project does not guarantee effective resource accessibility for local non-professional participants.

In case 2, not everyone who wants to participate can participate because of limited places. Besides, residents must take initiative to get involved because they will not explicitly be informed or invited by the management team. In case 3 there is lack of information availability from the municipality which restricts optimal elaboration of the plans. In addition, there is time-pressure, which ensures decisions should be made quickly and the number of participants remains limited, which probably influences the results.

### *Criterion of task definition*

According to Rowe and Frewer (2000, p. 16), *“the nature and scope of the participation task should be clearly defined”*. In each of the projects it has been mentioned that expectations of participation are clearly communicated. In case 3, the residents were dependent on the municipality in the final decision, while during the project the municipality gave little response to plans designed by the residents, which made the output of the plans unclear during the process. For the participants of case 1 their input and role was clearer, but in the end, the participants and the municipality are dependent on the final decisions of the project developer, which still can result in disappointments.

In case 2, the tasks of the participants have clearly been defined in the contract, though nothing has been mentioned about the voice and influence of participants on the project. This ensured inaudibility about participants' say about changing plans or suggesting new ideas.

It can be concluded that despite clearly defined tasks, uncertainties remain and there is always room for improvement.

### *Criterion of structured decision making*

Structured decision-making means that *“the participation exercise should use/provide appropriate mechanisms for structuring and displaying the decision-making process”* (Rowe & Frewer, 2000, p. 16). A couple of differences about structured decision-making between the cases can be distinguished. As mentioned in section 7.1, these differences could be due to differences in top-down or bottom-up management. Case 1 has a structured decision-making process; steps and moments of decision and participation have clearly been defined on forehand by using the UPP. Besides, the project gives insight in the underlying reasons and how decisions have been made. Case 2 and 3 on the other hand have no clear structure in the decision-making process. In case 2, participants are completely dependent on each other, since the residents got the responsibility of the whole project. Only a small group of residents are making the decisions without much openness to the rest of the participants. Case 3 is dependent on the final decisions of the municipality, while at the same time they have limited contact and participating residents have been working and waiting in uncertainty to see what the municipality is going to say about the plans. Case 3 has been mentioned chaotic and the project manager from the municipality indicates that they had to give more structure. Based on the studied cases, it can be concluded that structured decision-making is lacking in the bottom-up projects.

### *Criterion of cost effectiveness*

The last criterion that has been investigated in the three cases is that *“the procedure should in some sense be cost-effective”* (Rowe & Frewer, 2000, p. 17). In all the cases, it has been mentioned by the project managers that the participation process is cost-effective. One case has spent more time and money on participation than the other, but for each of the projects it has been mentioned that it was worth the effort and money. This indicates that the project managers or initiators are generally satisfied with the participation. In the two bottom-up projects, money has even been saved using citizen participation, because participation of citizens is mostly voluntary. For example, a resident in case 3 has been ‘hired’, at low cost, to make the design of the park and to manage the participation process with other residents, instead of paying an external professional design agency. Based on the results of the cases, it can be concluded that bottom-up projects can save money using citizen participation while the top-down project financially had to invest in the participation of citizens.

### *Methods and level of participation*

In each of the cases different gradations of participation can be distinguished, ranging from information to citizen control (Figure 3). In each of the cases only a small group (3-10 people) had the opportunity to participate at a higher level.

In case 1, the small group participating on a high level were the three externals representing the elderly, students and neighbourhood council. These citizens had the privilege to co-decide in the selection procedure of the project developer. In addition, they had a say during public sessions and they could provide input for the SPvE. Local citizens, on the other hand, could participate on a lower level, namely by getting informed by information letters, meetings and events, and plans were available for inspection at specific moments. Local citizens have had little opportunities to present their own ideas. Yet, starting entrepreneurs in the district had the opportunity to be closely involved in the process by presenting their plans and possibly integrating them into the plan. The participation of the local citizens and the relatively low score on the evaluation criteria can be compared with the public hearings mentioned by Rowe and Frewer (2000). In line with the results of this study; *“public hearings have been perceived as being quick, cheap and simply administered means of satisfying any legal requirement for public participation and seen as giving the appearance of community involvement”* (Rowe and Frewer, 2000, p. 18). It has been assumed for the use of methods like referenda and public hearings, that involvement is perceived as an end, rather than means to an end, which may reflect the intentions of authorities *“where the appearance of involvement is sufficient, and little genuine interest exists in implementing any recommendations that might arise from the exercise”*

(Rowe and Frewer, 2000, p. 10). The use of these methods is in contrast with the mentioned purpose of participation: local knowledge and experience.

In case 2, completely different methods are used; residents have the control of the participation process mostly in their own hands. At the start of the project, residents participated in the form of a committee. This method of participation has not been described by Rowe and Frewer in their article (2000). However, this method has led to a great influence and low transparency towards other residents. Looking at the ladder of participation (Arnstein, 1969) (Figure 3), this method can be placed under citizen power and specifically citizen control, the highest rung on the ladder; the committee, consisting of residents, got full responsibility from the municipality to formalize the project. The residents of the committee got the full responsibility from the municipality to carry and shape the project. In addition, each resident can take part in the form of an active contribution. In this, residents have little influence on changes, but the representativeness is very high according to the participating residents.

In case 3, the level of citizen participation is also high on the ladder of participation; participation can be placed on rung 7, delegated power (Figure 3). This level of participation is only practiced by a small group of residents; of about ten people. This group formed an advisory group for the municipality, in addition, they had the privilege to prepare a new park design. This method of participation can be compared with the citizen advisory committee as mentioned by Rowe and Frewer (2000). The assessment of Rowe and Frewer (2000) (see Appendix 2) mostly corresponds with the results of the study, namely: low on representativeness, high on early involvement, low transparency, low on resource accessibility, task definition and structured decision-making and high on cost effectiveness. Only when it comes to independence and influence, the project scores notable different than assessed by Rowe and Frewer (2000); independence scores very low in this project and influence of participants is guaranteed instead of not guaranteed.

### *Overall perception*

The perception on the process has been included in the discussion of the evaluation criteria. In addition, the overall perception of the participants on the participation process and some striking perceptions mentioned by respondents will be discussed.

In all the projects, the interviewed participants are enthusiastic about their participation. The project managers or initiators are in general also satisfied about the participation process.

In case 1, the participants are content with the influence they could have on the project but they also mention that it costed a lot of effort to have some impact on the final design. Besides, the participants indicate that it is difficult for the layman to stay up-to-date about the project and to have some influence on the project plans, though transparency has been indicated as an important criterion for an effective participation process (Rowe and Frewer, 2000). In addition, the project manager and the residents are least satisfied about the representativeness of the participants.

In case 2, the participants are especially satisfied about the fact that participation ensured mutual contact of neighbours. Less positive aspects that have been mentioned are the little support from authorities and the vulnerability of the project since the project is completely depending on residents.

Participants of case 3 are satisfied about the methods that have been used to participate and the influence they could have on the final design. In line with the critique of case 2 on the participation process, the respondents of case 3 are also least satisfied about the lack of support from the municipality. The municipality was too little involved in the project and should have provided more information regarding the design of the park. The municipality is willing to support but they are not able to provide; they do not have the time, the money and the right people. This has not only been mentioned by residents but also by the project manager himself. The municipality thinks that it is good when citizens take initiative, but the support of the municipality is lacking.

The importance of public management is confirmed by Yang and Pandey (2011) that public management matters in citizen participation. Hierarchical authority and support have been mentioned, among other things, as important variables for public management in citizen participation. In case 2 and 3 these variables are missing, which resulted in unorganized management and no feeling of appreciation and support in the participation process. In addition, Irvin and Stansbury (2004, p. 59) argue: *"If citizen participants are misled into thinking their decisions will be implemented, and then the decisions are ignored or merely taken under advisement, resentment will develop over time."* Lack of authority to support and to decide can have a counterproductive effect and may even increase public dissatisfaction. (Irvin & Stansbury, 2004).

## 7.4. Power

In this section the fourth sub question will be discussed: *What is the **power** of citizen participation concerning physical interventions for healthy living environments in vulnerable Dutch neighbourhoods?*

The power has been investigated by focussing on three aspects:

- 1) The influence of citizen participation on the **physical interventions** of the project
- 2) The expected influence of the project on **health** aspects
- 3) The influence of citizen participation on the **social interaction** of the citizens.

These three aspects are closely related to each other and will have some overlap.

### *Physical interventions*

In all the cases citizens have had substantial influence on the final plans. There is a distinction between the influence that citizens have had in the project with a top-down approach (case 1) and the other two projects that can be characterized by a bottom-up approach. In case 2 and 3, residents had a great influence on the development of the plans, only permission had to be given by the municipality. In case 1, on the other hand, the plans were initiated by the municipality and a few citizens had the privilege to think along and to contribute ideas. These citizens have influenced several physical interventions like the layout of the apartment blocks, cycle possibilities and an indoor garden. However, these citizens were representatives of possible future residents and not all of them lived in the neighbourhood itself. Local citizens, and especially people from the lower social economic class, have barely been able to influence the plans; they only have been informed in some ways and they had the opportunity give their opinion on the plans when they were available for inspection. But all the comments from citizens on the plans have been rejected.

These results are in contradiction with the arguments of Larson & Lach (2008) and Zeitoun et al (2011) in Reed et al (2017, p. 5). They argued that *“bottom-up processes with significant power asymmetries are more likely to suppress the interests of weaker actors than more formalized, top-down processes in which power dynamics are perceived to be more effectively controlled, especially when these processes are organized by formal institutions who already have decision-making power”*. This study, on the other hand, shows that the project with a top-down

process suppresses the interests of weaker actors; their power is limited and less effort has been made to include their interests.

For the other two projects, it can be concluded that the influence of citizens has been that large that when no participation has taken place, the projects would not exist since the initiatives came from citizens.

For case 2 and 3, it is true that only a small group of residents has had a big influence on the final design of the project. In case 2, a group consisting of a limited number of residents had the responsibility to start the project, no other residents have been able to provide input for the project. This limited number of residents has given shape to the garden and set up the concept of the garden.

In case 3, a small active group of residents had the responsibility for the design of the park, besides opinions from other residents have been included in the process. The power of these citizens on physical interventions has been considerable. Their influence is visible in, for example, the intervention of sport facilities, a saver playground and visibility for more safety.

Since for each of the projects respondents have only been conducted with citizens who have had a relatively great influence in the project, it is difficult to estimate the influence of residents who have been involved in the projects to a smaller extent.

### *Health*

The actual influence of the projects on environmental health is difficult to estimate: firstly, the projects are not finished yet; secondly, it is impossible to say how much impact a specific intervention has on health, since a lot of other aspects can influence the health quality, whether positive or negative. What can be concluded about health, is what respondents think about how the project will contribute to the health quality of the neighbourhood.

It is striking that in Case 1 and 3 it has been indicated that the project will only have a limited influence on the health quality of the neighbourhood. It has been mentioned that the projects are too small to make a substantial difference. Though it has been mentioned that to a small extent the projects contribute to more movement, safety and especially more contact, for example, less loneliness. So, it can be concluded that, according to the interviewees, the project has a positive contribution to the health quality of the neighbourhood, but it will not make a substantial difference to the health quality of the neighbourhood.

Case 2, on the other hand, is much smaller than the other two projects in terms of surface and complexity, but according to the residents, the project contributes to the health of the neighbourhood in several ways (nutrition, exercise, being outside and mental health). So, the results of this study suggest that a bigger size of a project does not guarantee more impact on health.

The differences on the influence on health aspects between the cases, could be due to the ongoing project of case 2 with no time limitation. Therefore, the project of case 2 has had more time to develop and to see effects on health aspects. In addition, the participants themselves are in direct contact to health aspects and actively involved, while in the other projects the interventions are not implemented yet and the focus is on the development of the area. To that respect, case 2 is essentially different from the other two cases. The positive estimation of the participants of case 2 could be due to social interaction. As mentioned by Berkman and Glass (2000), social interaction may have positive effects on physical, mental and self-reported health. In addition, the empowerment of citizens could be a stimulant to get in contact with neighbours which has been positively associated to health (Doornis & Heritage, 2013). For case 2, it can be concluded that next to the intervention (build environment) of case 2, important contributing determinants of health from the health map (**Fout! Verwijzingsbron niet gevonden.**) are lifestyle and community.

Although the interviewees of case 1 and 3 indicate that the project is too small to make a substantial difference in health quality, it can be concluded that planned interventions will contribute to a healthy living environment, according to literature mentioned in the theoretical framework. For example, presence or proximity of green spaces in neighbourhoods provides opportunities for physical activities, social contacts and relaxation, which has been related to resident's health (van den Berg, 2015; Di Nardo, 2010; Lee et al, 2015). This can be related to case 3; a park will be renewed to make it more attractive and to stimulate physical activity. Health aspects of case 1 can be related to sport facilities, transportation and land use patterns, for example, facilitating cycling routes and bicycle storage and creating a sport centre in one of the buildings. Transport networks can have a positive effect on environmental health since they influence modal choice (WHO, 2010) and can therefore stimulate active transportation and reduce car use.

### *Social interaction*

Laverack (2006) has mentioned that individuals do have a better chance of achieving their health goals if they participate with other people who are affected by the same or similar circumstances to build mutual trust and trust

in public institutions. In addition, according to Fröding (2011) and Sallis et al (2012), there seems to be agreement among scientists that social interaction is an important determinant of health within the neighbourhood setting.

With respect to the social interaction, for case 1 and 3 it has been indicated that the participation process has had little influence on social cohesion, since many of the participated citizens consist of existing groups, so less new contacts have been made. Yet, it has been emphasized that the design of the project could contribute to the social cohesion of the neighbourhood, since residents will have more opportunities to meet each other. It is striking that, although the residents do not, the project manager of case 3 thinks the participation process influences the social interaction of the residents. He also mentioned that the influence on social interaction is an important goal of participation processes.

In case 2, it has been mentioned that the participation absolutely influenced the social interaction in the neighbourhood. Because of the project, residents see each other much more and different groups get know each other. The residents mentioned that they have contact with more people in the neighbourhood since they participate in the project.

This difference between the cases may have to do with the fact that the participation process of case 2 is also part of the project and there is no final result to work towards, while the other two projects make use of participation to work towards results.

In addition to the expected health outcomes by the respondents, social interaction is also an important determinant of health (community in the health map) (Fröding, 2011; Sallis, 2012; Laverack, 2006). According to Laverack (2006), community-based empowerment initiatives that lead improvements in health outcomes, have often an immediate impact on behaviours that are measurable during the period covered by the intervention. *“The evidence shows that community action has been able to lead to sustained changes in the social and organizational environment that is linked to improvements in health”* (Laverack, 2006, p. 114). This can be confirmed by the project of case 2 in which residents are responsible for the garden, impact on behaviours are visible in movement, being outside, nutrition and contact with neighbours. Yet, it should be considered that the participating group is only a small part of the neighbourhood.

## 8. Conclusion

This final chapter will conclude on four aspects. First, a reflection on the chosen methods will be outlined. Secondly, the scientific objective and the answer on the main research question will be concluded. Thirdly recommendations for future research will be outlined and finally, the practical application of the results will be discussed.

### *Reflection on methods*

The chosen methods have had influence on the final results, the consequences will therefore be reflected.

Firstly, the projects have been chosen based on several criteria, which ensured the projects are to some extent comparable and that the projects are relevant for the research. Yet, the projects have also a couple of fundamental differences. On the one hand, these differences have limited the generalizability of the outcomes, but on the other hand, it created the opportunity to draw interesting conclusions based on these differences among the projects. In addition, every project is unique, therefore the results and conclusions for these projects offer no guarantee for the results in other projects. Still, these results are valuable since lessons can be learnt from practical experiences and information, and the results give direction for further research.

Secondly, in all the cases, the researcher was dependent on the respondents chosen by one or two persons in the project. This ensured that, in the end, only the most active participants have been interviewed, which reflects only a limited view. Besides, no interviews have been conducted with non-participating residents, which would possibly highlight a whole other side.

Finally, it is unfortunately impossible to conclude anything about the actual results of environmental health improvement: the chosen projects are not implemented or finished yet, many other aspects influence environmental health and no quantitative research has been done in the study. Yet, some important conclusions can be drawn about physical interventions and its impact on environmental health according to previous research, the expected health impact of the project according to residents and the impact of the participation process on social interaction of neighbours.

### *Scientific objective and main research question*

The scientific objective of this research was *to analyse how citizen participation concerning physical interventions contributes to healthy living environments in vulnerable Dutch neighbourhoods*. The scientific relevance of this research is more knowledge and specific examples of the application and contribution of citizen participation in vulnerable neighbourhoods for healthy living environments. This research has given more insight in the purpose, process, perception and power of citizen participation in vulnerable Dutch neighbourhoods, which might contribute to improvement and specification of participation processes and as a result improve the health quality of living environments. More insight will especially be interesting for local governments in relation to the changing role of governments and citizens (Uyterlinde & van der Velden, 2017). The most important outcomes of this analysis will be outlined.

Following from the discussion, in none of the cases it has been indicated that the purpose of citizen participation is to have a democratic process; the importance of representativeness has even been questioned. What has been indicated as important purposes is to create support, the use of local knowledge and the empowerment of residents. The results show that trust has been built because of participation and social learning has even been achieved in case 2 and 3. In case 2 and 3, residents have been looking for solutions together by making use of knowledge from neighbours and the skills of residents, without involving a higher power.

The analysis of the participation process shows that it is difficult to get a representative group of active residents; mainly people from higher social classes are participating. This is attributed to the fact that the threshold is too high for some groups and because of educational-, culture-, and language barriers. This is confirmed by the participation project of case 2, where the threshold of participation is low and language and culture hardly play a role, in this case it has been indicated that representativeness has been achieved. Besides, it can be concluded that in each of the projects a small group of citizens participated on a high level while a relatively large group participated on lower levels of informing.

The difference of bottom-up projects and top-down projects is visible in the participation process in several respects. In bottom-up projects the contribution of citizens is logically larger than in top-down projects. In addition, the top-down project concerns a housing project which requires knowledge and input from the municipality. Nevertheless, several initiatives have been taken to involve citizens, but this is only on the level of informing. In the bottom-up projects, on the other hand, it is indicated that there is too little support and input from the municipality.

In each of the projects there is generally satisfaction with the participation process, although the effectiveness of the processes does not score very high on the assessment model of Rowe and Frewer (2000).

Concerning the power of citizen participation, it can be concluded that in each of the projects a small group of citizens have had substantial influence on the final plan/ design. Yet, residents in the bottom-up projects have more power than residents in the top-down project. Besides, it can be concluded that the estimation of the influence of health aspects is closely related to social interaction and scale is not related to the impact. The multiple case study shows that in the smallest and least complex case (vegetable garden) the influence of the project on environmental health has been estimated high in comparison with the other cases; in those two cases, it has even been indicated that the scale is too small to make a substantial difference. In addition, the influence of social interaction is also estimated high in the case of the vegetable garden, this can partly be explained by the fact that it is an ongoing participation project and because of the empowerment of citizens.

Although the influence of the interventions is generally estimated to be low, various interventions that have been planned offer benefits for environmental health, according to previous research. How and to what extent these interventions will contribute to environmental health is dependent on various factors (how it will be used, the environment, residents' perception, etc.).

In summary, the main question '*How does citizen participation concerning physical interventions contribute to healthy living environments in vulnerable Dutch neighbourhoods?*' can be answered as follows, based on the three cases explored: Citizen participation concerning physical interventions contributes to healthy living environments in vulnerable Dutch neighbourhoods by local knowledge, trust building and social learning resulting in physical interventions that aim to contribute to a healthy living environment where the level of influence is dependent on management (bottom-up or top-down approach), while results in social interaction and estimation of the health impact of the project seems to be dependent on scope of the project: the ongoing participation project of case 2 has a substantial higher impact on health than the other cases.

#### *Practical application of the results*

The results of this research can be used by governments and management for citizen participation processes to improve the contribution of citizen participation towards healthy living environments. This study showed that the contribution of citizen participation towards healthy living environments is not optimal yet. Based on this research it can be concluded that representativeness of involved citizens is lacking in some participation processes because

of level of education and language- and culture barriers. Representativeness can improve the effectiveness of participation and as a result it can improve the impact on the health quality of the living environment. Therefore, I would recommend initiators and project managers to limit educational-, language-, and culture barriers in the participation process; there is need for other methods to achieve higher representativeness. This could be done by, for example, bringing the project to citizens instead of waiting for citizens to participate in the project, or by focussing on more practical and active participation.

Besides, I would recommend involving more individual citizens instead of existing groups. to improve health results by social interaction

In addition, when initiators and project managers are mainly focussed on improvement of environmental health quality, active and practical participation seems to have more impact on the health quality of the neighbourhood instead of passive forms of participation and informing or discussing.

Finally, I would recommend local governments, based on the results of this research, to better stimulate and respond to bottom-up initiatives. Since it has been mentioned by several respondents of the bottom-up projects that the local government is too little involved, does not offer the needed information, time or persons and support is lacking, it could be interesting for local governments to focus on customized management concerning bottom-up initiatives. Which can result in more effective participation processes with motivated and stimulated citizens increasing the chances of positive health effects.

#### *Recommendations for future research*

The fact that not every local government is prepared and responding well towards bottom-up initiatives, is an interesting result of this research and asks for further research. More insight in expectations of citizens and possibilities and willingness of local governments will provide important information to improve effectiveness and results of citizen participation processes. Furthermore, I would recommend for further research in this area to gain more practical knowledge and examples of the contribution of citizen participation towards healthy living environments. In addition, it would be interesting to expand the research by also focussing on residents in the concerning neighbourhood that have not participated in the project, this will possibly shed a new light on this topic.

# Bibliography

- Agger, A. & Larsen, J.N. (2009). Exclusion in Area-based Urban Policy Programmes. *European Planning Studies*, 17(7), 1085-1099.
- Alphen, Th. Van, et al. (2017). Gezonde Omgeving Utrecht (GO! Utrecht), Handelingsperspectieven voor een gezonde Leefomgeving. RIVM Briefrapport 2017- 0189
- Andersen, H.S. (2010). Excluded places: The interaction between segregation, urban decay and deprived neighbourhoods. *Housing, Theory and Society*, 19(3-4), 153-169.
- Arnstein, S.R. (1969). A Ladder of Citizen Participation. *Journal of the American Planning Association*, 35(4), 216-224.
- Barton H. & Grant M. (2006). A health map for the local human habitat. *The Journal for the Royal Society for the Promotion of Health*, 126(6), 252-253.
- Barton H. & Tsourou C. (2000). Healthy Urban Planning: a WHO Guide to Planning for People. London: E&FN Spon
- Barton, H. & Grant, M. (2013). Urban Planning for Healthy Cities. A review of the progress of the European Healthy Cities Programme. *Journal of Urban Health*, 90(1), 129-141.
- Beckhoven, E. van, Boxmeer, B. van, Szemzö, H. (2009). Local participation in large housing estates. A comparison of the Netherlands, Spain and Hungary. In Rowlands, R., Musterd S., Kempen, R. van (eds), *Mass housing in Europe. Multiple faces of development, change and response*. Basingstoke: Palgrave Macmillian.
- Beheerteam Robinia Tuintjes (2016). Akkoord: Gezamenlijke afspraken Moestuingroep Robinia Tuintjes + Gebruiksovereenkomst zelfbeheer Moestuin Robinia Tuintjes.
- Berg, M. van den, Wendel-Vos, W., Poppel, M. van, Kemper, H., Mechelen, W. van, Maas, J. (2015). Health benefits of green spaces in the living environment: A systematic review of epidemiological studies. *Urban Forestry & Urban Greening*, 14(4), 806-816.
- Berkes, F. (2009). Evolution of co-management: Role of knowledge generation, bridging organizations and social learning. *Journal of Environmental Management*, 90(5), 1692-1702.
- Berkman, L.F. & Glass, T. (2000). Social integration, social networks, social support, and health. In Berkman, L.F. & Kawachi, I. (eds), *Social Epidemiology*, 137-173. New York: Oxford University Press.

- Bizjak, I. (2012). Improving public participation in spatial planning with Web 2.0 tools. *Urbani izziv*, 23 (1), 112-124.
- Bowler, D.E., Buyung-Ali, L.M., Knight, T.M., Pullin, A.S. (2010). A systematic review of evidence for the added benefits to health of exposure to natural environments. *BMC Public Health*, 10, 456.
- Braubach M. & Grant M. (2010). *Evidence review on the spatial determinants of health in urban settings IN Urban Planning, Environment and Health, from Evidence to Policy Action*, Annexe 2, 22–97. Copenhagen: WHO Regional Office for Europe
- Brown, G. & Chin, S.Y.W. (2013). Assessing the Effectiveness of Public Participation in Neighbourhood Planning. *Planning Practice and Research*, 28(5), 563-588.
- Brown, G. (2015). Engaging the wisdom of crowds and public judgement for land use planning using public participation geographic information systems. *Australian Planner*, 52(3), 199-209.
- Burris, S, Hancock, T., Lin, V., Herzog, A. (2007). Emerging strategies for healthy urban governance. *Journal of Urban Health: Bulletin of the New York Academy of Medicine*, 84(1), 154-163.
- Callahan, K. (2007). Citizen Participation: Models and Methods. *International Journal of Public Administration*, 30(11), 1179-1196.
- Carmichael, L., Barton, H., Gray, S., Lease, H., Pilkington, P. (2012). Integration of health into urban spatial planning through impact assessment: Identifying governance and policy barriers and facilitators. *Environmental Impact Assessment Review*, 32(1), 187-194.
- Collins, K. & Ison, R. (2009). Jumping off Arnstein's Ladder: Social Learning as a New Policy Paradigm for Climate Change Adaptation. *Environmental Policy and Governance*, 19, 358–373.
- Coombes E, Jones A, Hillsdon M. (2010). The relationship of physical activity and overweight to objectively measured green space accessibility and use. *Journal Social Science*, 70(6), 816-822.
- Corburn, J. & Cohen, A.K. (2012). Why we need urban health equity indicators: integrating science, policy, and community. *PLoS Medicine*, 9(8).
- Corburn, J. (2002). Environmental justice, local knowledge, and risk: the discourse of a community-based cumulative exposure assessment. *Environmental Management*, 29(4), 291-299.
- Corburn, J. (2004). Confronting the Challenges in Reconnecting Urban Planning and Public Health. *American Journal of Public Health*, 94 (4), 541-546.
- Corburn, J. (2005). *Street science: Community knowledge and environmental health justice*. Cambridge: MIT Press.

- Corburn, J. (2017). *Equitable and Healthy City Planning: Towards Healthy Urban Governance in the Century of the City*. In: Healthy Cities, ed. Leeuw, E. de & Simos, J., 31-41.
- Creswell, J. W. (1998). *Qualitative inquiry and research design: Choosing among five traditions*. Thousand Oaks, CA: Sage.
- Creswell, J.W. & Miller, D.L. (2000). Determining Validity in Qualitative Inquiry. *Theory into Practice*, 39(3), 124-130.
- Creswell, J.W. (2009). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches (3<sup>rd</sup> edition)*. Sage Publications
- Creswell, J.W., Hanson, W.E., Plano Clark, V.L., Morales, A. (2007). Qualitative Research Designs: Selection and Implementation. *The Counselling Psychologist*, 35(2), 236-264.
- De Vente, J., M. S. Reed, L. C. Stringer, S. Valente, and J. Newig. (2016). How does the context and design of participatory decision-making processes affect their outcomes? Evidence from sustainable land management in global drylands. *Ecology and Society*, 21(2), 24.
- Di Nardo, F., Saulle, R., La Torre, G. (2010). Green areas and health outcomes: a systematic review of the scientific literature. *Italian Journal of Public Health* 7(4), 402-413.
- Doornis, M. & Heritage, Z. (2013). Healthy Cities: Facilitating the Active Participation and Empowerment of Local People. *Journal of Urban Health*, 90(1), 74–91.
- Du, G., Shin, K.J., Yan, L, Managi, S. (2018). A comparative approach to modelling multiple urban land use changes using tree-based methods and cellular automata: the case of Greater Tokyo Area. *International Journal of Geographical Information Science*, 32(4), 757-782.
- European portal for action on health inequalities (2017). The Netherlands. Available at: [health-inequalities.eu/about-hi/at-national-level/the-netherlands](http://health-inequalities.eu/about-hi/at-national-level/the-netherlands). Accessed at 11-01-2018.
- Feldman, P.J. & Steptoe, A. (2004). How Neighborhoods and Physical Functioning are Related: The Roles of Neighborhood Socioeconomic Status, Perceived Neighborhood Strain, and Individual Health Risk Factors. *Annals of Behavioral Medicine*, 27(2), 91-99.
- Fischer, F. (2000). *Citizen, Experts, and Environment: The Politics of Local Knowledge*. Durham, NC: Duke University
- Flacke, J., Schüle, S.A., Köckler, H., Bolte, G. (2016). Mapping Environmental Inequalities Relevant for Health for Informing Urban Planning Interventions—A Case Study in the City of Dortmund, Germany. *International Journal of Environmental Research and Public Health*, 13(7), 711-730.
- Flyvbjerg, B. (2006), Five misunderstandings About Case-Study Research. *Qualitative Inquiry*, 12(2), 219-245.

- Fröding, K. (2011). Public Health, Neighbourhood development, and Participation - Research and practice in four Swedish Partnership Cities. *Örebro Studies in Care Science* 32.
- Frumkin, H. (2003). Healthy Places: Exploring the Evidence. *American Journal of Public Health*, 93 (9), 1451-1456.
- Gemeente Amsterdam (2018). *Opknopbeurt Eendrachtspark*. Available at: <https://stemvannieuwwest.amsterdam.nl/plan/1>. Accessed at 30-04-2018.
- Gemeente Utrecht (2017). Stedenbouwkundig Programma van Eisen, NPD-Strook, Overvecht. Gemeente Utrecht.
- Gerring, J. & Cojocaru, L. (2015). *Case-Selection: A Diversity of Methods and Criteria*. Department of Political Science, Boston University. Available at: <https://pdfs.semanticscholar.org/7ff9/124c7427e6404cd6dbd27cbcd8cef666b8f1.pdf>. Accessed: 26-02-2018.
- Government of the Netherlands (2018). Sport and physical activity close to home. Available at: <https://www.government.nl/topics/sports/sport-and-physical-activity-close-to-home>. Accessed at 04-06-2018.
- Hecke, L. van, Deforche, B., Dyck, D. van, Bourdeaudhuij, I. de, Veitch, J., Cauwenberg, J. (2016). Social and Physical Environmental Factors Influencing Adolescents' Physical Activity in Urban Public Open Spaces: A Qualitative Study Using Walk-Along Interviews. *PLoS One*, 11(5), 1-24.
- Heiman, M. (1997). Science by the people: grassroots environmental monitoring and the debate over scientific expertise. *Journal of Planning Education and Research*, 16, 291–299.
- Hurlbert, M. & Gupta, J. (2015). The split ladder of participation: A diagnostic, strategic, and evaluation tool to assess when participation is necessary. *Environmental Science & Policy*, 50, 100-113.
- Irvin, R.A. & Stansbury, J. (2004). Citizen Participation in Decision Making: Is It Worth the Effort? *Public Administration Review*, 64(1), 55-65.
- Isidiho, A.O. (2016). Evaluating the Top-Bottom and Bottom-Up Community Development Approaches: Mixed Method Approach as Alternative for Rural Un-Educated Communities in Developing Countries. *Mediterranean Journal of Social Sciences*, 7(4), 265-273.
- Jerrett M., Burnett R.T., Brook J., Kanaroglou, P., Giovis, C., Finkelstein, N., Hutchison, B. (2004). Do socioeconomic characteristics modify the short term association between air pollution and mortality? Evidence from a zonal time series in Hamilton, Canada. *Journal of Epidemiology and Community Health*, 58(1), 31–40.
- Kahila-Tani, M., Broberg, A., Kyttä, M., Tyger, T. (2016). Let the Citizens Map—Public Participation GIS as a Planning Support System in the Helsinki Master Plan Process. *Planning Practice & Research*, 31(2), 195-214.

- Khadka, C. & Vacik, H. (2011). Comparing a top-down and bottom-up approach in the identification of criteria and indicators for sustainable community forest management in Nepal. *Oxford Journals: Forestry*, 85(1), 145- 158.
- Kruize, H. et al (2015). Ruimte en gezondheid, een vanzelfsprekende combinatie? RIVM rapport 2015-0002
- Lachowycz, K., Jones, A.P. (2011). Greenspace and obesity: a systematic review of the evidence. *Obesity Reviews*, 12(501), 183–189.
- Laird, F. (1993). Participatory analysis, democracy, and technological decision making. *Science of Technology and Human Values*, 18, 341–361.
- Lancee, B. & Werfhorst, H.G. van de (2012). Income inequality and participation: A comparison of 24 European countries. *Social Science Research*, 41, 1166–1178.
- Laurian, L. (2004) Public participation in environmental decision making: findings from communities facing toxic waste cleanup. *Journal of the American Planning Association*, 70(1), 53–65.
- Laverack, G. (2006) Improving health outcomes through community empowerment: a review of the literature. *Journal of Health, Population and Nutrition*, 24, 113–120.
- Lawlor D, et al (2003). The challenges of evaluating environmental interventions to increase population levels of physical activity: the case of the UK National Cycle Network. *Journal of Epidemiology and Community Health*, 57, 96–101.
- Lee, A.C.K., Jordan, H.C., Horsley, J. (2015). Value of urban green spaces in promoting healthy living and wellbeing: prospects for planning. *Risk Management and Healthcare Policy*, 8, 131–137.
- Loketgezondleven.nl (2015). Gezonde wijkaanpak. Available at: [loketgezondleven.nl/gezonde-gemeente/gezonde-wijkaanpak](http://loketgezondleven.nl/gezonde-gemeente/gezonde-wijkaanpak). Accessed at 11-01-2018.
- Loketgezondleven.nl (2017). Gezonde leefomgeving. Available at: [loketgezondleven.nl/gezonde-gemeente/themadossiers/gezonde-leefomgeving](http://loketgezondleven.nl/gezonde-gemeente/themadossiers/gezonde-leefomgeving). Accessed at 11-01-2018.
- Mackenbach J.P., Bos V., Andersen O., et al (2003). Widening socioeconomic inequalities in mortality in six Western European countries. *International Journal Epidemiol*, 32(5), 830–837.
- Mackenbach, J.P., Kulhanova, I., Artnik, B., Bopp, M., Borrell, C., Clemens, T., et al, (2016). Changes in mortality inequalities over two decades: register based study of European countries. *Health & Place*, 47, 44-53.
- Mackenbach, J.P., Kulhanova, I., Menvielle, G., Bopp, M., Borrell, C., Costa, G., et al (2015). Trends in inequalities in premature mortality: a study of 3.2 million deaths in 13 European countries. *Journal of Epidemiology and Community Health*, 69(3), 207–217.

- Malterud, K. (2001). Qualitative research: standards, challenges, and guidelines. *The Lancet*, 358(9280), 483-488.
- Matarrita-Cascante, D. & Luloff, A.E. (2008). Profiling Participative Residents in Western Communities. *Rural Sociology*, 73(1), 44-61.
- Meyer, O.L., Castro-Schilo, L., Aguilar-Gaxiola, S. (2014). Determinants of Mental Health and Self-Rated Health: A Model of Socioeconomic Status, Neighborhood Safety, and Physical Activity. *American Journal of Public Health*, 104 (9), 1734-1741.
- Miles, M.B. & Huberman, A.M. (1994). *Qualitative Data Analysis (2nd edition)*. Thousand Oaks, CA: Sage Publications
- Ministerie van Binnenlandse zaken en Koninkrijksrelaties (2016). Leefbaarometer. Available at: <https://www.leefbaarometer.nl/kaart/?indicator=0&schaalniveau=0&periode=1&referentiekaart=2&locatie=&latitude=&longitude=#kaart>. Accessed at 22-08-2018.
- Ministerie van Infrastructuur en Waterstaat (2007). Wijkselectie voor de wijkenaanpak – indicatoren 40 aandachtswijken. Kamerstuk, 24-04-2007.
- Mitchell, R. & Popham, F. (2008). Effect of exposure to natural environment on health inequalities: an observational population study. *The Lancet*, 372(9650), 1655–1660.
- Montgomery, M.R. (2009). 'Urban poverty and health in developing countries': Population Reference Bureau; Washington DC
- Morrow, S.L. (2007). Qualitative research in counselling psychology: conceptual foundations. *The counselling psychologist*, 35(2), 209-235.
- Nes, A. van, Lopez, M. (2013). Spatial-socio classification of deprived neighbourhoods in the Netherlands: Strategies for neighbourhood revitalisation. *Proceedings of the Ninth International Space Syntax Symposium*, Ed. by Y.O. Kim, H.T. Park, K.W. Seo, Seoul: Sejong University.
- Newig, J. (2007). Does public participation in environmental decisions lead to improved environmental quality?: towards an analytical framework. *Communication, Cooperation, Participation (International Journal of Sustainability Communication)*, 1(1), 51-71.
- Nieuwenhuijsen, M.J. (2016). Urban and transport planning, environmental exposures and health-new concepts, methods and tools to improve health in cities. *Environmental Health* 2016, 15(1):38, 161-171. DOI 10.1186/s12940-016-0108-1
- Pilkington, P., Powell, J., Davis, A. (2016). Evidence-Based Decision Making When Designing Environments for Physical Activity: The Role of Public Health. *Sport Med*, 46, 997-1002.

- Platform31 (2017). Met de Omgevingswet waarde geven aan gezondheid. Available at: [platform31.nl/nieuws/met-omgevingswet-waarde-geven-aan-gezondheid](http://platform31.nl/nieuws/met-omgevingswet-waarde-geven-aan-gezondheid). Accessed at 13-02-2018.
- Platform31 (2018). Gezond in.... Available at: <https://www.platform31.nl/wat-we-doen/overige-projecten/samenwerkingsverbanden/gezond-in>. Accessed at 12-04-2018.
- Pohjola, M.V. & Tuomisto, J.T. (2011). Openness in participation, assessment, and policy making upon issues of environment and environmental health: a review of literature and recent project results. *Environmental Health*, 10(58).
- Polkinghorne, D. E. (2005). Language and meaning: Data collection in qualitative research. *Journal of Counseling Psychology*, 52, 137-145.
- Pople, K. (1995). *Analysing Community Work: Its Theory and Practice*, Milton Keynes: Open University Press.
- Reed, M.S. et al (2017). A theory of participation: what makes stakeholder and public engagement in environmental management work? *Restoration Ecology*, 10.1111/rec.12541.
- Rijksoverheid (2017). Nieuwe omgevingswet maakt omgevingsrecht eenvoudiger. Available at: <https://www.rijksoverheid.nl/onderwerpen/omgevingswet/vernieuwing-omgevingsrecht>. Accessed at 04-03-2018.
- RIVM (2017). Gezonde leefomgeving. Available at: [atlasleefomgeving.nl/web/gezondeleefomgeving/aan-de-slag/met-wie](https://atlasleefomgeving.nl/web/gezondeleefomgeving/aan-de-slag/met-wie). Accessed at 12-02-2018.
- Rocha V., Ribeiro A.I., Severo M., Barros H., Fraga S. (2017). Neighbourhood socioeconomic deprivation and health-related quality of life: A multilevel analysis. *PLoS ONE*, 12(12).
- Rowe, G. & Frewer, L.J. (2000). Public Participation Methods: A Framework for Evaluation. *Science, Technology & Human Values*, 25(1), 3-29.
- Russell, S. & Vidler, E. (2000). The Rise and Fall of Government-Community Partnerships for Urban Development: Grassroots Testimony from Colombo. *Environment and Urbanization* 12(1), 73–86.
- Rydin, Y. et al (2012). Shaping cities for health: complexity and the planning of urban environments in the 21st century. *Lancet*, 379, 2079–2108.
- Sallis, J.F., Floyd, M.F., Rodríguez, D.A., Saelens, B.E. (2012). The Role of Built Environments in Physical Activity, Obesity, and CVD. *Circulation*, 125(5), 729–737.
- Schramm, W. (1971). *Notes on case studies of instructional media projects*. Working paper for the Academy for Educational Development, Washington, DC.
- Silva, L.T. (2015). Environmental quality health index for cities. *Habitat International*, 45, 29-35.

- Sparrentak, K. van (2014). Positive Environmental Justice in deprived neighbourhoods in the Netherlands. Masterthesis: Urban Environmental Management Environmental Policy Group, Wageningen University.
- Suomi, K. & Kotthaus, D. (2017). Neighbourhood sport facility. LIKES Research Reports on Physical Activity and Health, 327(2017).
- TRB (2005). Transportation Research Board Institute of Medicine of the National Academies. Does the Built Environment Influence Physical Activity? Examining the Evidence – Special Report 282. Washington DC, Transport Research Boards.
- Tritter, J.Q. & McCallum, A. (2006). The snakes and ladders of user involvement: Moving beyond Arnstein. *Health Policy*, 76, 156–168.
- Uyterlinde, M. & Velden, J. van der (2017). Kwetsbare wijken in beeld. Platform 31, Den Haag
- Verkleij, H. & Verheij, R.A. (2003). Zorg in de grote steden. RIVM report 270556007.
- Verschuren, P. & Doorewaard, H. (2005). *Designing a research project*. Lemma, Utrecht.
- Verweij, A., Lucht, F. van der, Droomers, M. (2008). Gezondheid in veertig krachtwijken. RIVM report 270951001.
- Vliet, J. van, Naus, N., Lammeren, R.J.A van, Bregt, A.K., Hurkens, J., Delden, H. van (2013). Measuring the neighbourhood effect to calibrate land use models. *Computers, Environment and Urban Systems*, 41, 55–64.
- VNG, IPO, UvW, Rijkswaterstaat (2017). De Omgevingswet uitgelegd. Available at: [aandeslagmetdeomgevingswet.nl/omgevingswet](https://aandeslagmetdeomgevingswet.nl/omgevingswet). Accessed at 12-02-2018.
- VNG, IPO, UvW, Rijkswaterstaat (2017a). Gezonde fysieke leefomgeving in de Omgevingswet. Available at: [aandeslagmetdeomgevingswet.nl/thema/thema/gezonde-fysieke](https://aandeslagmetdeomgevingswet.nl/thema/thema/gezonde-fysieke). Accessed at 12-02-2018.
- WHO (2018). Health Impact Assessment. Available at: [who.int/hia/en](http://who.int/hia/en). Accessed at 22-01-2018)
- Wilkinson, R.G. & Pickett, K.E. (2008). Income inequality and socioeconomic gradients in mortality. *American Journal Public Health*, 98 (4), 699–704.
- Wolch, J.R., Byrne, J., Newell, J.P. (2014). Urban green space, public health, and environmental justice: The challenge of making cities 'just green enough'. *Landscape and Urban Planning*, 125, 234-244.
- Woolf, S.H. & Aron, L. (2013). U.S. Health in International Perspective: Shorter Lives, Poorer Health. Chapter 7 Physical and Social Environmental Factors. Washington (DC): National Academies Press (US)
- World Health Organization & UN Habitat (2010). Hidden Cities: Unmasking and Overcoming Health Inequities in Urban Settings. Kobe, Japan.

- World Health Organization (1948). Constitution of the World Health Organization, 14 U.N.T.S No. 185, Art. 1. Available at: [http://www.who.int/governance/eb/who\\_constitution\\_en.pdf](http://www.who.int/governance/eb/who_constitution_en.pdf). Accessed at 17-01-2018.
- World Health Organization (2006). Preventing disease through healthy environments. Geneva, Switzerland: WHO
- World Health Organization (2010). Urban planning, environment and health. From evidence to policy action - Meeting report -. WHO Europe
- World Health Organization (2011). Healthy Urban Planning. Report of a Consultation Meeting March 2011, Kobe, Japan. Available at: [http://www.who.int/kobe\\_centre/publications/urban\\_planning2011.pdf](http://www.who.int/kobe_centre/publications/urban_planning2011.pdf). Accessed at 16-01-2018.
- World Health Organization (2012). Environmental health inequalities Europe. Assessment report. WHO Regional Office for Europe. Available at: [http://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0010/157969/e96194.pdf?ua=1](http://www.euro.who.int/__data/assets/pdf_file/0010/157969/e96194.pdf?ua=1). Accessed at 05-01-2018
- Woudenberg, F. (2016). Maak de Omgevingswet gezonder. *Spectrum*, 8.
- Yang, K. & Pandey, S.K. (2011). Further Dissecting the Black Box of Citizen Participation: When Does Citizen Involvement Lead to Good Outcomes? *Public Administration Review*, November/ December 2011, 880-892.
- Yin, R. K. (2003). *Case study research: Design and methods* (3rd edition). Thousand Oaks, CA: Sage.
- Zainal, Z. (2007). Case study as a research method. *Journal Kemanus*, 9(2007), 1-6.

# Appendix 1

A number of the most formalized public participation methods (adjustment on Rowe & Frewer, 2000)

Participation method	Nature of Participants	Time Scale/Duration	Characteristics/Mechanism
<b>Referenda</b>	Potentially all members of national or local population; realistically, a significant proportion of these.	Vote cast at single point in time.	Vote is usually choice of one of two options. All participants have equal influence. Final outcome is binding.
<b>Public hearings/ inquiries</b>	Interested citizens, limited in number by size of venue. True participants are experts and politicians making presentations.	May last many weeks/months, even years. Usually held during weekdays/working hours	Entails presentations by agencies regarding plans in open forum. Public may voice opinions but have no direct impact on recommendation.
<b>Public opinion surveys</b>	Large sample (e.g., 100s or 1000s), usually representative of the population segments of interest.	Single event, usually lasting no more than several minutes.	Often enacted through written questionnaire or telephone survey. May involve variety of questions. Used for information gathering.
<b>Negotiated rule making</b>	Small number of representatives of stakeholder groups (may include public representatives).	Uncertain: strict deadline usually set: days/weeks/months.	Working committee of stakeholder representatives (and from sponsor). Consensus required on specific question (usually, a regulation).
<b>Consensus conference</b>	Generally, ten to sixteen members of public (with no knowledge on topic) selected by steering committee as "representative" of the general public.	Preparatory demonstrations and lectures (etc.) to inform panellists about topic, then three-day conference.	Lay panel with independent facilitator questions expert witnesses chosen by stakeholder panel. Meetings open to wider public. Conclusions on key questions made via report or press conference.

<b>Citizens' jury/panel</b>	Generally, twelve to twenty members of public selected by stakeholder panel to be roughly representative of the local population.	Not precise but generally involve meetings over a few days (e.g., four to ten).	Lay panel with independent facilitator questions expert witnesses chosen by stakeholder panel. Meetings not generally open. Conclusions on key questions made via report or press conference.
<b>Citizen/public advisory committee</b>	Small group selected by sponsor to represent views of various groups or communities (may not comprise members of true public).	Takes place over an extended period of time.	Group convened by sponsor to examine some significant issue. Interaction with industry representatives.
<b>Focus groups</b>	Small group of five to twelve selected to be representative of public; several groups may be used for one project (comprising members of subgroups).	Single meeting, usually up to two hours.	Free discussion on general topic with video/tape recording and little input/direction from facilitator. Used to assess opinions/attitude.

# Appendix 2

## An Assessment of the Most Formalized Public Participation Techniques According to a Variety of Evaluation Criteria (Rowe & Frewer, 2000)

	<i>Referend a</i>	<i>Public Hearings</i>	<i>Public Opinion Survey</i>	<i>Negotiated Rule Making</i>	<i>Consensus Conference</i>	<i>Citizens' Jury/ Panel</i>	<i>Citizen Advisory Committee</i>	<i>Focus Groups</i>
<b>Acceptance criteria</b>								
Representativeness of participants	High (Assuming full turn-out at poll)	Low	Generally High	Low	Moderate (Limited by small sample)	Moderate (limited by small sample)	Moderate to low	Moderate (limited by small sample)
Independence of true participants	High	Generally low	High	Moderate	High	High	Moderate (often relation to sponsor)	High
Early involvement	Variable	Variable	Potentially high	Variable	Potentially high	Potentially high	Variable but may be high	Potentially high
Influence on final policy	High	Moderate	Indirect and difficult to determine	High	Variable but not guaranteed	Variable but not guaranteed	Variable but not guaranteed	Liable to be indirect
Transparency of process to the public	High	Moderate	Moderate	Low	High	Moderate	Variable but often low	Low
<b>Process criteria</b>								
Resource accessibility	Low	Low-moderate	Low	High	High	High	Variable	Low
Task definition	High	Generally high	Low	High	Generally high	Generally high	Variable but may be high	Variable but may be high
Structured decision making	Low	Low	Low	Moderate	Moderate (influence of facilitator)	Potentially high	Variable (influence of facilitator)	Low
Cost-effectiveness	Variable/low	Low	Potentially high	Potentially High	Moderate to high	Moderate to high	Variable	Potentially high

# Appendix 3

## Selection criteria cases

Projects/ criteria	Vulnerable neighbourhood (based on the Leefbaarometer)	Citizen participation	Physical interventions/ health promotion	Data availability	Recently project	Decisions are made or further	City size >150.000
1. Geuzenveld Sloterveer (gezonde wijkaanpak)					More than 5 years ago		Amsterdam
2. Project Heeswijkplein					1 year ago		Den Haag
3. Doornakkers Gezond					More than 5 years ago		Eindhoven
4. NPD-strook						Not finished, but decisions have been made	Utrecht
5. Ivoordreef						Not finished, but decisions have been made	Utrecht
6. Community centre in Dolphia						Not finished, some decisions have been made	Enschede

7. Renewal Eendrachtsplein						Some decisions are made, others will be made soon	Amsterdam
8. Buurttuin Bergboss					3 years ago		Oss
9. De Groene Connectie	Spread over several districts				Still in development		Rotterdam
10. Vegetable garden De Waterlandjes					Still in development		Amsterdam

Legend	
Yes/Good	
Not ideal	
Difficult	

# Appendix 4

## Project documents

Case	Used data*
NPD Strook (Utrecht)	Interview Project manager (NPD-P1-05.04.18)
	Interview resident 1 (NPD-R1-20.04.18)
	Interview resident 2 (NPD-R2-20.04.18)
	Interview resident 3 (NPD-R3-25.04.18)
	Selectieleidraad (Gemeente Utrecht, 2016)
	Tender document (Van Wijnen & AM, 2017)
	Stedenbouwkundig Programma van Eisen (SpvE) (Gemeente Utrecht, 2017).
	Reacties Stedenbouwkundig Programma van Eisen NPD-Strook (Gemeente Utrecht, 2016a)
	npdstrookovervecht.nl_(Gemeente Utrecht 2017a)
	utrecht.nl/wonen-en-leven/bouwen/bouwprojecten/centrum-overvecht-opnieuw-inrichten-gebied/woningen-NPD Strook/(Gemeente Utrecht 2017b)
	UPP (Gemeente Utrecht, 2016b)
	Wijkbericht bestemmingplan (Gemeente Utrecht, 2017c)
Vegetable garden De Waterlandjes	Interview Initiator (VGP-P2-01.05.18)
	Interview resident 4 (VGP-R4-04.05.18)
	Interview resident 5 (VGP-R5-04.05.18)
	Interview resident 6 (VGP-R6-30.05.18)
	Flyer Moestuin Waterlandplein (Stadsdeel Noord, Combiwel, Doras en huisartsenpraktijk Jonker & Koetsier, 2015)
	doras.nl/nieuws/moestuinproject-de-waterlandjes. (Doras, 2018)
	Jaarverslag 2016 Huisartsenpraktijk Jonker   Koetsier (Jonker & Koetsier, 2016)
	Contract (Beheerteam Robina tuintjes, 2016)
Renewal Eendrachtspark	Interview Project manager (RE-P3-30.05.18)
	Interview resident 7 (RE-R7-30.05.18)
	Interview resident 8 (RE-R8-30.05.18)
	Opknopbeurt Eendrachtspark, schets ontwerp (Soma, 2018)
	Opknopbeurt Eendrachtspark (Gemeente Amsterdam, 2018)

Presentatie Opknopbeurt Eendrachtspark (Soma, 2018)

Bewonersbijeenkomst 29-05-2018 (Van der Woerd, 2018)

Email contact with the designer (Personal contact, 2018)

Bewonersplatform stemvannieuwwest.amsterdam.nl (Gemeente Amsterdam, 2017)

\* Data can be obtained on request

# Appendix 5

## Interview codes

Interviewee	Date of interview	Reference code	Interviewer
NPD Strook (Utrecht)			
Project manager 1	05-04-2018	NPD-P1-05.04.18	C.H. van der Woerd
Resident 1	20-04-2018	NPD-R1-20.04.18	C.H. van der Woerd
Resident 2	20-04-2018	NPD-R2-20.04.18	C.H. van der Woerd
Resident 3	25-04-2018	NPD-R3-25.04.18	C.H. van der Woerd
Vegetable Garden Project 'De Waterlandjes' (Amsterdam)			
Project manager 2	01-05-2018	VGP-P2-01.05.18	C.H. van der Woerd
Resident 4	04-05-2018	VGP-R4-04.05.18	C.H. van der Woerd
Resident 5	04-05-2018	VGP-R5-04.05.18	C.H. van der Woerd
Resident 6	30-05-2018	VGP-R6-30.05.18	C.H. van der Woerd
Renewal Eendrachtspark (Amsterdam)			
Project manager 3	30-05-2018	RE-P3-30.05.18	C.H. van der Woerd
Resident 7	30-05-2018	RE-R7-30.05.18	C.H. van der Woerd
Resident 8	30-05-2018	RE-R8-30.05.18	C.H. van der Woerd

# Appendix 6

## Interview guide

### Interview project manager/ initiator

#### *Introductie*

Ik ben Deanne, master student aan de Universiteit van Wageningen. Ik studeer Ruimtelijke Planning en het onderzoek waar ik nu mee bezig ben is mijn afstudeeronderzoek. In dit onderzoek wil ik kijken naar de rol van burgerparticipatie in ruimtelijke projecten die zich richten op het verbeteren van de gezondheid in wijken.

Dit interview zal gericht zijn op het doel van burgerparticipatie voor dit specifieke project, het proces van burgerparticipatie gedurende het project en uw perceptie daarop, en de invloed van participatie op de uiteindelijke toepassingen.

1. Vindt u het goed dat dit interview wordt opgenomen?  
U zult anoniem blijven in het onderzoek
2. Wat is precies uw functie in het betreffende project?
3. Wie zijn er verder bij dit project betrokken?
4. Wanneer is het project van start gegaan?
5. Wanneer is het project afgerond/ of gepland afgerond te zijn?

#### *Doel*

6. Wat is de belangrijkste reden geweest voor het toepassen van burgerparticipatie in dit project?
7. Zijn er nog meer redenen geweest?
8. Wie heeft dit besloten?
9. Wat hoopten jullie/u hiermee te bereiken?

#### *Proces en perceptie*

10. Hoe is er voor gezorgd dat burgers betrokken zijn bij dit project?
11. In hoeverre zijn burgers betrokken? (participatieladder)
12. Welke methoden zijn er (verder) gebruikt om burgers te laten participeren? (participatie methoden)
13. Waarom deze methoden?
14. Hoeveel burgers hebben geparticipeerd/ waarom deze burgers?
15. Hoe zijn de burgers gekozen, hebben jullie dat zelf gedaan of laten doen door een onafhankelijke partij?
16. Zijn deze burgers naar uw idee representatief voor de rest van de bewoners van de wijk? Hoe is hiervoor gezorgd?
17. Is aan het begin duidelijk gecommuniceerd naar de burgers wat er van de ze verwacht wordt, wat de participatie inhoudt en wat er met hun input gedaan wordt?

18. Op welk moment in het proces zijn de burgers betrokken en tot welk moment? Wat is uw mening hierover?
19. Zijn jullie transparant geweest naar de burgers toe gedurende het project over wat er gebeurt en hoe besluiten zijn genomen? Zo ja, hoe hebben jullie dit gedaan?
20. Op welke manier is besluitvorming tijdens het project gestructureerd?
21. Op welke manier hebben burgers toegang gehad tot benodigde middelen (informatie, mensen, tijd)?
22. Wat is uw mening over het gehele participatie proces?
23. Waar bent u het meest tevreden over?
24. Waar bent u het minst tevreden over?

*Invloed*

25. Is de burgerparticipatie (naar uw idee) kosteneffectief geweest?
26. Wat heeft de participatie jullie opgeleverd?
27. Waar hebben burgers echt invloed op gehad?
28. Hebt u ook veranderingen gemerkt in sociale interactie tussen burgers?
29. Bent u tevreden over de invloed die burgers hebben gehad op dit project?
  
30. Zijn er nog dingen die interessant voor mij kunnen zijn om te delen?

Bedankt voor uw tijd en medewerking!

## Interview participating citizen

### *Introductie*

Ik ben Deanne, master student aan de Universiteit van Wageningen. Ik studeer Ruimtelijke Planning en het onderzoek waar ik nu mee bezig ben is mijn afstudeeronderzoek. In dit onderzoek wil ik kijken naar de rol van burgerparticipatie in ruimtelijke projecten die zich richten op het verbeteren van de gezondheid in wijken.

Dit interview zal gericht zijn op de perceptie van de burger op het participatie proces en de invloed van burgerparticipatie in het betreffende project.

1. Vindt u het goed dat dit interview wordt opgenomen?

De antwoorden van dit interview zullen gebruikt worden voor het analyseren van de rol van burgerparticipatie. Uw zult anoniem blijven.

2. Hebt u werk? Zo ja, wat doet u? En wat is uw opleidingsachtergrond?
3. Hoelang woont u al in deze wijk?
4. Wat vindt u van de wijk?
5. Hoe is de sociale cohesie/ interactie? Hebt u veel contact met uw buren?
6. Op welke manier bent u betrokken geraakt bij het project?

### *Proces/ perceptie*

7. Op welk moment bent u betrokken geraakt bij het project?
8. Wat vindt u daarvan?
9. In hoeverre bent u betrokken geweest? (participatieladder)
10. Wat is uw mening daarover?
11. Welke methoden zijn er (verder) gebruikt om u te laten participeren? (participatie methoden)
12. Wat vindt u van de toegepaste methoden?
13. Waarom bent u uitgekozen om deel te nemen aan het project?
14. Is de groep deelnemers naar uw idee representatief voor de rest van de bewoners in de wijk?
15. Tot welke fase van het project bent u betrokken? Wat vindt u daar van?
16. Is het project (manager) transparant geweest gedurende het project over wat er gebeuren zou en hoe besluiten genomen zijn? Bent u voldoende op de hoogte gehouden/ geïnformeerd?
17. Zo ja, hoe hebben ze dat gedaan? Zo nee, wat had er beter gekund/ anders gemoeten?
18. Op welke manier heeft u als burger toegang tot benodigde middelen (informatie, mensen, tijd)?
19. Bent u tevreden over de toegang die u hebt tot benodigde middelen?
20. Wat is uw mening over het gehele participatieproces?
21. Waar bent u tevreden over?
22. Wat had u graag anders gezien?

### *Invloed*

23. Hebt u het gevoel invloed te hebben gehad in het project?
24. Op welke manier hebt u kunnen bijdragen?

25. Wat is er terug te zien van burgerparticipatie in de uiteindelijke interventies?
26. Bent u tevreden over de invloed die u heeft kunnen uitoefenen? Zo nee, hoe had u het graag anders gezien?
27. Hoe heeft burgerparticipatie invloed gehad op de sociale interactie van de inwoners? Wat is uw mening hierover?
28. Denkt u dat dit project bijdraagt/ heeft bijgedragen aan uw gezondheid? Zo ja, hoe?
  
29. Zijn er nog dingen die interessant voor mij kunnen zijn om te delen?

Bedankt voor uw tijd en medewerking!