Urban green in policy







Case studies: Amersfoort, Utrecht & Haarlem

A critical discourse analysis on problem representations, their origins and effects

MSc Thesis by Esmee Ruland, BSc.

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Preface

This Master Thesis is part of my *Master Landscape Architecture & Planning* at Wageningen University. My interest and choice for the *Track Spatial Planning* has led to doing my *Master Thesis in Land Use Planning*. Within land use planning, this final research for my Master's degree focuses on the topic of urban green in policy. It is a critical discourse analysis on problem representations in relation to urban green in policy, their origins and effects. Three Dutch cities are selected as case studies for this research: Amersfoort, Haarlem and Utrecht.

This research attempts to provide new insights for society about the status-quo how problems in relation to urban green are represented in Dutch municipal policies which are also input for the new Environmental Visions. The new upcoming Dutch Environment & Planning Law (which is planned to be introduced in 2021) aims towards integral Environmental Visions and Plans (Rijksoverheid, 2017). For more integrated Environmental Visions, a report based on pilot projects of the Environmental Visions advices governments to focus on problems (Beroepsvereniging Nederlandse Stedebouwkundigen en Planologen [BNSP], 2016; Ministerie van Infrastructuur & Milieu [Ministerie van I&M], 2016, p.2). For scientific purposes, this research aims to better understand problem representations in relation to urban green in policies and the origins and effects of these problem representations. This research in this way contributes to the less dominant paradigm of problem-questing in research concerning urban green in policy.

First of all, I wish to acknowledge and thank my supervisor of this Master thesis: dr. I.M. (Marleen) Buizer of Wageningen University, for her feedback. Secondly, I am very grateful for the co-operation of the municipal officials and/ or policy makers of Amersfoort, Haarlem and Utrecht I e-mailed, met in person and/ or interviewed for this research. Thirdly, I wish to thank my boyfriend, friends and parents for their support during the process of this Master Thesis.

I hope this research inspires policy makers, officials, researchers and other people to think critically about problem representations in policy and specifically in relation to urban green. Subsequently, I hope this critical thinking leads to clearly formulating the problem(s) represented to be in relation to urban green, the represented cause(s) and the represented solution(s) in to be developed relevant policy, so its coherence and effectiveness can be checked.

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Esmee Ruland

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Abstract

The current dominant paradigm in scientific research on urban green in policies is 'problem-solving'. This research contributes to the opposite paradigm: 'problem-questioning'. The conceptual model of this research (which could be used in further research and as a tool for policy makers) combines 'What's the problem represented to be'-approach of Bacchi (2007, 2010, 2012), work of Foucault (1988), seeing discourse as 'text', 'systems of thought' and 'action' of Sharp and Richardson (2001, p.193) and sensitizing concepts (Boeije et al., 2009, p.256) to identify the problem representations in relation to urban green in policies, their origins and effects. Municipal officials/ policy makers are interviewed and the most recent and/ or relevant policies in relation to urban green are examined of the Dutch cities: Amersfoort, Haarlem and Utrecht. These three case studies showed that 'the problem' in relation to urban green and 'the causes' are not clearly named in their most recent and relevant policies. In this way it could not be easily checked if the proposed solutions in these policies fit to identified problems and causes and so if these solutions are effective and comprehensive. For more integrated policies, which is also aimed for concerning the future Environmental Visions (and Plans) with the upcoming Dutch Environment & Planning Act (Rijksoverheid, 2017), this research recommends policy makers to include a question for the represented problem(s) and descriptions for the represented cause(s) and represented solution(s) in policy. Not fully discussing the wide range of viewpoints on urban green limits the options for governments to frame what is 'the problem', 'the cause' and 'the solution' in relation to urban green in policies. This research therefore recommends to formulate the represented problem(s), cause(s) and solution(s) in relation to urban green based on interpretations of several policy concepts relating to urban green combined.

Key words: urban green; problem representations; policy concepts; discourse analysis; Dutch Environment & Planning Act.

Summary

The topic of this MSc Thesis is urban green in policy. This research addresses the societal problem that currently, the wide range of viewpoints on urban green is not fully acknowledged and discussed, which limits the options for municipalities to frame what is 'the problem' in relation to urban green in policies. The societal objective of this research is to provide insight of the status-quo how problems in relation to urban green are represented in Dutch municipal policies which are also input for the new Environmental Visions. The upcoming Dutch Environment & Planning Act, which is planned to be introduced in 2021, challenges Dutch municipalities to develop integral Environmental Visions and Environmental Plans (Rijksoverheid, 2017). In order to promote more integrated approaches for Environmental Visions, a report about pilots of Environmental Visions advices governments to focus on problems (BNSP, 2016; Ministerie van I&M, 2016, p.2). This MSc Thesis has a focus on problem representations and contributes to the scientific paradigm of 'problem-questioning'. The scientific problem addressed by this research is that the dominant paradigm in scientific research about urban green in policies is 'problem-solving', which leaves less room for research on urban green in policies in the paradigm of 'problem-questioning'. The scientific objective of this research is to better understand problem representations in relation to urban green in policies and the origins and effects of these problem representations. The societal and scientific objective led to the following main research question: *How are problems in relation to urban green represented in the most recent and/ or relevant municipal policies of the Dutch cities Amersfoort, Haarlem & Utrecht and what are the origins and effects of these problem representations?*

This research is a critical discourse analysis on problem representations, their origins and effects. I based the three elements 'problem representations in policy', their 'origins' and 'effects' on 'What's the problem represented to be'[WPR]-approach of Bacchi (2012, p.21), which is a form critical discourse analysis. Critical discourse analysis is a form of discourse analysis. Discourse analysis takes part in the school of thought of social constructionism. This school of thought is characterised by thinking in worldviews and that knowledge is constructed. My conceptual model (which could be used in further research and as a tool for policy makers) combines theories of Bacchi (2007, 2010, 2012), Foucault (1988), seeing discourse as 'text', 'systems of thought' and 'action' of Sharp and Richardson (2001, p.193) and sensitizing concepts (Boeije et al., 2009, p.256). I transformed my conceptual model into a coding scheme to identify the problem representations in relation to urban green in policies (by separating the represented problem, represented cause and represented solution), their origins (by identifying knowledge, the represented cause, power and justifications) and effects (by identifying represented solutions, left out problems, conflicts and subjectification of urban green). The Dutch cities Amersfoort, Haarlem and Utrecht are selected as case studies. In total eight municipal officials/ policy makers are interviewed and thirteen policies are selected as 'the most recent and/ or relevant policies in relation to urban green'. This research took place between September 2017 and April 2018.

The results show that 'the problem' in relation to urban green and 'the causes' are not clearly named in the most recent and relevant policies of the case studies. A municipal official explained that policies are more focused on portraying the final image. An effect is that the proposed solutions in these policies could not be easily checked if they fit to identified problems and causes and so if these solutions are effective and comprehensive. The main problem represented to be per municipality, their origins and effects I identified form a best estimate of the puzzle. Other effects are that subjectification of urban green could be done unconsciously, next to unconsciously leaving out other problems (implied by policy concepts) and conflicts. For more integrated policies, which is also aimed for concerning the future Environmental Visions (and Plans), I recommend policy makers to include a question for the represented problem(s) and descriptions for the represented cause(s) and represented solution(s) in policy. Not fully discussing the wide range of viewpoints on urban green limits the options for governments to frame what is 'the problem', 'the cause' and 'the solution' in relation to urban green in policies. I therefore recommend to formulate the represented problem(s), cause(s) and solution(s) in relation to urban green based on interpretations of several policy concepts relating to urban green combined. As a starting point, see my quickscan of policy concepts relating to urban green and the implied problem representations.

Samenvatting

Het onderwerp van deze masterscriptie is stedelijk groen in beleid. Dit onderzoek kaart het maatschappelijke probleem aan dat het brede scala aan standpunten over stedelijk groen momenteel niet volledig wordt erkend en besproken, wat de opties voor gemeenten beperkt wat als 'het probleem' wordt gezien met betrekking tot stedelijk groen. De maatschappelijke doelstelling van dit onderzoek is inzicht te geven hoe problemen met betrekking tot stedelijk groen zijn weergegeven in huidige Nederlandse gemeentelijke beleidsstukken, die ook input zijn voor de nieuwe omgevingsvisies. De nieuwe omgevingswet, die in 2021 gepland staat te worden ingevoerd, daagt namelijk de Nederlandse gemeenten uit om integrale omgevingsvisies en omgevingsplannen te maken (Rijksoverheid, 2017). Om tot een meer integrale aanpak voor omgevingsvisies te komen, adviseert een rapport gebaseerd op pilots van Omgevingsvisies de overheden om meer te focussen op problemen (BNSP, 2016; Ministerie van I&M, 2016, p.2). Deze masterscriptie richt zich op probleemrepresentaties en draagt bij aan wetenschappelijk onderzoek dat zich focust op ‘het ter discussie stellen van problemen’. Dit onderzoek kaart het wetenschappelijke probleem aan dat onderzoek naar stedelijk groen in beleid wordt gedomineerd door onderzoek dat zich richt op 'het oplossen van problemen', waardoor er minder ruimte is voor onderzoek dat zich richt op ‘het ter discussie stellen van problemen’ met betrekking tot stedelijk groen in beleid. Het wetenschappelijke doel van dit onderzoek is het beter begrijpen van probleemrepresentaties met betrekking tot stedelijk groen in beleid en de oorsprong en effecten van deze probleemrepresentaties. Deze maatschappelijke en wetenschappelijke doelstelling resulteerde in de volgende onderzoeksvraag: *Hoe zijn problemen met betrekking tot stedelijk groen weergegeven in het meest recente en / of relevante gemeentelijke beleid van de Nederlandse steden Amersfoort, Haarlem & Utrecht en wat zijn de oorsprongen en effecten van deze probleemrepresentaties?*

Dit onderzoek is een kritische discoursanalyse van probleemrepresentaties, hun oorsprong en effecten. Ik heb de drie elementen 'probleemrepresentaties in beleid', hun 'oorsprong' en 'effecten' gebaseerd op 'What is the Problem Represented to be' [WPR]-aanpak van Bacchi (2012, p.21), wat een vorm is van kritisch discoursanalyse. Kritische discoursanalyse is een vorm van discoursanalyse. Discoursanalyse is onderdeel van het sociaal constructionisme. Deze school van denken wordt gekenmerkt door het denken in wereldbeelden en dat kennis wordt geconstrueerd. Mijn conceptueel model (dat kan worden gebruikt in vervolgonderzoek en als hulpmiddel voor beleidsmakers) combineert theorieën van Bacchi (2007, 2010, 2012), Foucault (1988), de theorie van Sharp en Richardson (2001, p.193) die discours omschrijven als 'tekst', 'denksystemen' en 'actie' en richtinggevende concepten (Boeije et al., 2009, p.256). Mijn conceptuele model heb ik omgevormd tot een codeerschema om de volgende drie elementen te identificeren: de probleemrepresentaties met betrekking tot stedelijk groen in beleid (door de gerepresenteerde problemen, oorzaken en oplossingen van elkaar te scheiden), hun oorsprong (door kennis, de gerepresenteerde oorzaak, macht en rechtvaardigingen te identificeren) en effecten (door de gerepresenteerde oplossingen, weggelaten problemen, conflicten en subjectivering van stedelijk groen te identificeren). De Nederlandse steden Amersfoort, Haarlem en Utrecht zijn geselecteerd als casestudies. In totaal zijn acht gemeenteambtenaren/ beleidsmakers geïnterviewd en dertien beleidsstukken geselecteerd als 'het meest recente en/ of relevante beleid met betrekking tot stedelijk groen'. Dit onderzoek vond plaats tussen september 2017 en april 2018.

De resultaten laten zien dat 'het probleem' met betrekking tot stedelijk groen en 'de oorzaken' niet duidelijk worden genoemd in het meest recente en relevante beleid van de casestudies. Een gemeenteambtenaar legde uit dat het beleid meer gericht is op het neerzetten van een eindbeeld. Een effect is dat de voorgestelde oplossingen in deze beleidstukken niet eenvoudig kunnen worden gecontroleerd of ze bij geïdentificeerde problemen en oorzaken passen en dus of deze oplossingen effectief en allesomvattend zijn. Het hoofdprobleem wat betreft stedelijk groen, hun oorsprong en effecten, die ik voor elk van de drie gemeenten heb geïdentificeerd, vormen daarom een zo goed mogelijke inschatting van de puzzel. Andere effecten zijn dat subjectivering van stedelijk groen onbewust kan worden gedaan, naast het onbewust weglaten van andere problemen (afgeleid van beleidsconcepten) en conflicten. Voor meer integraal beleid, waar de toekomstige Omgevingsvisies (en -plannen) ook gericht op zijn, raad ik beleidsmakers aan in beleid een vraag op te nemen dat ‘het probleem’ omvat en omschrijvingen van ‘de oorzaak’ en ‘de oplossing’. Het niet volledig bespreken van het brede scala aan standpunten over stedelijk groen beperkt de mogelijkheden voor overheden om 'het probleem', 'de oorzaak' en 'de oplossing' met betrekking tot stedelijk groen te formuleren in beleid. Ik adviseer daarom om interpretaties van verscheidene beleidsconcepten met betrekking tot stedelijk groen te combineren om tot ‘het probleem’, ‘de oorzaak’ en ‘de oplossing’ met betrekking tot stedelijk groen in beleid te komen. Mijn quickscan van beleidsconcepten met betrekking tot stedelijke groene en indirect afgeleide probleemrepresentaties kan hierbij als een startpunt worden gebruikt.

1. Introduction

In this chapter my research is introduced. I start by shortly sketching the background in which this research takes place by describing my interest and recent societal and scientific interest in the topic of urban green in policy (*section 1.1)*. In the problem description, the societal and scientific problem I identified are elaborated *(section 1.2)*. I pay attention to the societal and scientific objective of this research together with the main research question in the last section of this chapter *(section 1.3)*.

1.1 Background of this research

In this section, I introduce the research topic of 'urban green in policy' in relation to my personal interest in the topic (*section 1.1.1)*, societal interest (*section 1.1.2)* and scientific interest (*section 1.1.3)*. The preparation of this background sketch led to the formulation of questions that came to my mind, which contributed to the problem statement and objective of this research.

1.1.1 My personal interest in urban green in policy

The topic of urban green has already intrigued me during my Bachelor Human Geography and Planning at Utrecht University, which resulted in a Bachelor Thesis about how residents of Utrecht Science Park experienced urban green spaces. This research led me to become a member of the residents' council of my student building and of the Utrecht Science Park student council. I am mostly inspired by my minor about sustainability science at Utrecht University and my minor 'Green Blue City – future proof neighbourhoods' at Delft University of Technology in which the topic of urban green was an important issue. In my current Master Landscape Architecture and Planning at Wageningen University, urban green again appeared in my selected courses such as 'Climate responsive planning and design', 'Planning and design of urban space' and 'Decision-making in forest and nature management'. When I worked together with spatial planners, urban planners, architects, landscape architects, environmental experts, professionals and residents I also tried to gain insight into different viewpoints towards the topic of urban green. I follow this topic in the news, I follow the developments in my own living environment and try to take part in participatory processes (some also relating to urban green). Spatial planning has been my main track of study, which could explain my interest in the policy formation aspect in relation to urban green. For my Master Thesis Land Use Planning at Wageningen University I have a focus on a few selected Dutch municipal policies in relation to the topic of urban green.

When mentioning 'urban green' in this research, a broad sense of urban green is meant: including all types of plants (trees, shrubs, grasses, flowers, etcetera) and water in urban areas. In terms of sustainable urbanism and spatial planning following Pötz & Bleuzé (2012), 'green' and 'blue' in urban areas are included in this research. The Dutch Health Council also uses this broad sense of 'urban green' (NOS, 2017 June 16th). How I interpret 'urban green' is similar to the policy concept of Green Urban Areas [GUA] as described below by the European Commission:

"include all types of green space, from city parks, to rooftop gardens and tree-lined streets. It also includes natural features containing water, such as lakes, rivers, wetlands and coastlines, sometimes referred to as 'blue space' " (European Commission [EC], 2018B).

Similar to the GUA-policy concept, I interpret **'urban green'** in this research as: **all green (plants) and blue (water) in urban areas**.

1.1.2 Societal interest in urban green in policy

The topic of urban green is appearing in recent Dutch news, which partly represents the current societal interest in urban green. Dutch press for instance released that the cities of Sydney and Melbourne in Australia (NOS, 2017 October 4th) and Sevilla in Spain (Zoutberg in NOS, 2017 August 14th) want to add more urban green to cool the city and less concrete. This because of rising temperatures in summers due to climate change, which in the most fatal case increases death rates (NOS, 2017 October 4th). In the Netherlands, it appeared in De Volkskrant in 2015 that the city of Rotterdam is experimenting with rooftop gardens and green walls to cool the city (Speksnijder in De Volkskrant, 2015 July 2nd). In the context of climate change, urban green is among others being promoted to cool the city, but also: to provide shade, water storage, capture greenhouse gases and to improve air quality (Knip in NRC, 2016

November 18th). Next to promoting urban green for the consequences of climate change, urban green is also promoted in the news to improve public health. Dutch news informed that the Dutch Health Council recently advised the Dutch government to invest more in urban green also for recreation purposes to improve public health (NOS, 2017 June 16th). The Dutch news also pays attention to cities wanting to become or becoming 'the greenest city'. In this way a competition element is added to urban green (Rosol et al.,2017, pp.1710-1711). Dutch news for example payed attention to the city of Paris, in which the 2015 United Nations Climate Agreement was signed, who claims to aspire to become the greenest capital of Europe (NOS, 2017 September 30th). This refers to the European Green Capital Award [EGCA] initiated by the European Commission (EC, 2018B). Research of Wageningen University resulting in ranking lists concerning urban green also reaches the Dutch news (Dirks in De Volkskrant, 2017 September 26th). Moreover, Wageningen University & Research displayed a ranking list of the greenest cities of the Netherlands, based on research of Visschedijk (2014), as an online news article on their website. This research framed the Dutch cities of Heerlen, Emmen and Lelystad as the top three greenest cities. Aiming to become 'the greenest city' and the need to invest more in urban green for climate adaptation and improving health seems to be a hot topic in Dutch news. On the one hand, urban green is for several reasons promoted, but on the other hand it is also criticised in the Dutch news (Knip in NRC, 2016 November 18th). Less attention is payed to 'the adverse effect of urban green' according to Knip in NRC (2016 November 18th). In this article of NRC urban green is criticised for not 'all being good', by referring to circumstances in which for example particular trees in a small street could block the air flow and also block greenhouse gases from cars which decreases the air-quality in such a particular street (Knip in NRC, 2016 November 18th). In short, with this brief introduction I personally found out that the topic of urban green is promoted for climate adaptation and improving public health in the Dutch news, but I also found a more critical article about 'urban green not all being good'. This leads me to wonder in what (other) ways is urban green viewed as something positive and/ or negative in the Netherlands. Secondly, this short introduction shows that Dutch news pays attention to titles/ awards of 'the greenest city', which leads me to ask: why and how urban green (potentially) contributes to the promotion of cities. How urban green is viewed and why/ how urban green is promoted are aspects that can be addressed in policy.

In this Master Thesis, the focus is on urban green in policy and specifically on municipal policies. The development of policy however happens on various levels. How policies and/ or policy concepts relating to urban green developed on higher level potentially influence the content of municipal policies is food for thought. On the policy level of the European Union [EU], policy concepts relating to urban green such as Green Urban Areas [GUA], (Urban) Green Infrastructure [(U)GI] and Nature Based Solutions [NBS] are (among others with the help of contests) promoted to be implemented on lower levels (European Commission [EC], 2018A; EC, 2018B; EC, 2018C). The more than 10 year old Dutch national spatial planning policy, 'Nota Ruimte'(VROM, 2006), focuses on the amount of urban green and proposed a target number of 75 m² green per dwelling (CBS, PBL, WUR, 2010). However, the question that comes to my mind is to what extent this target number of 75 m² green per dwelling is implemented in municipal policies. In September 2017, the Dutch government introduced that all municipalities have to map their water storage capacity and vulnerable places to prepare for the consequences of climate change (NOS, 2017a September 19th). On the municipal level of urban green in policy, in response to these water storage maps, the municipality of Zwolle for example recently decided to inform their citizens to make more gardens 'climate-proof'(NOS, 2017b September 19th). The urban green rankings also have a relation with urban green municipal policy in the following example. Den Haag (The Hague) received the title of 'greenest city of the Netherlands' of the Dutch Entente Florale competition in 2017 and the aldermen of green reacted proudly in the news (De Jonge in AD, 2017 September 20th). This title of the European Entente Florale competition derives from the European Association of Landscape and Flowers [AEFP], who has been organising this competition among participants since 1975 (AEFP, 2018). However, in another article (Dirks in De Volkskrant, 2017 September 26th), a council member of the city in response argued that this title sketches a biased view, because trees are for example cut down on a large scale in Den Haag. The opposition party wanted to know how many trees could have been planted with the municipal costs of taking part in this competition (Dirks in De Volkskrant, 2017 September 26th). These examples of debates on urban green policies represent different viewpoints and led me to ask how municipalities think about urban green, which

policy concepts and viewpoints are implemented in municipal policy and how municipalities act towards urban green.

The urgency or opportunity of discussing how to think about urban green, what to implement in policy and how to act towards urban green in Dutch policies could be further enhanced by the new Dutch Environment & Planning Act ('Omgevingswet' in Dutch), which is a new framework law with new instruments which is planned to be introduced in 2021 (Kistenkas et al., 2017; Rijksoverheid, 2017). The new law aims to integrate different fields of spatial planning, water management, nature management, monuments and construction into one Environmental Vision and one Environmental Plan (Kistenkas et al., 2017; Rijksoverheid, 2017). One Environmental Vision to set the objectives and one Environmental Plan about how these objectives will be implemented need to be made on the national level, for every province and for every municipality (Rijksoverheid, 2017). The aim of this new law is an integral approach, simplify and speed up the procedure to stimulate initiatives, less costs, less research and make it more accessible by digitalization (Rijksoverheid, 2017). With this framework law with less detailed rules, the national government gives the provincial and municipal governments the responsibility to involve stakeholders and decide about the content (Kistenkas et al., 2017; Rijksoverheid, 2017; RIVM, 2017). The question is what the new Environmental & Planning Act, the Environmental Visions and Environmental Plans, which are in the making, will mean for urban green. Currently, municipalities are in the experimenting phase and are having difficulties to prepare themselves for this new law, starting with the new Environmental Vision to set the objectives for their entire territory (Rijksoverheid, 2017; RIVM, 20017, p.31; VNG, 2017). The Dutch Association of Municipalities (VNG) mentioned that municipalities have difficulties making the Environmental Vision more integrated (RIVM, 2017; VNG, 2017). Reaching an integral approach and attitude turned out not to be reachable for (all) organisations and experts in the pilot projects working with the Environmental Vision, was one of the conclusions in a letter of the Dutch Minister of Infrastructure and Environment to the Second Chamber of the Netherlands State General in 2016 (Ministerie van Infrastructuur en Milieu [Ministerie I&M], 2016, p.2). The ambition to make Environmental Visions and Plans more integrated and the effects for urban green formed important background to my choice of topic.

1.1.3 Scientific interest in urban green in policy

How the topic of urban green is highlighted in society is also addressed and debated by researchers (Lyytimäli & Petersen, 2014). Researcher Visschedijk (2012, pp.3-5) for example argues municipalities should invest in urban green for several reasons, such as to attract businesses and residents, for public health, biodiversity and/ or to contribute to new challenges of climate change (by for example reducing air pollution and cooling the city). These are different views relating to urban green considering for example: economic, social, ecological and/ or sustainable development (Kistenkas et al., 2017, p.89). Sustainable development is more and more considered as an integral approach, but also for urban green an integral approach is suggested since it connects many different fields (Kistenkas et al., 2017; Lyytimäli & Petersen, 2014). This leads me to ask how sustainability and urban green is seen as an integral approach. Several policy concepts loaded with meaning such as 'urban ecosystem services', 'natural capital', 'intrinsic and instrumental value of nature', have gained attention in urban planning and policies which are introduced to connect different knowledges, but also still represent different worldviews how to think about urban green (Lyytimäli & Petersen, 2014; PBL, 2016). Philosopher Floris van den Berg (2011; 2012) for example argues that policy concept 'the instrumental value of nature' represents a worldview of nature for human benefits only and that intrinsically valuing nature goes beyond anthropocentrism. In response, other concepts are introduced such as 'ecosystem disservices' (Lyytimäli & Petersen, 2014) and 'biocultural diversity' (Buizer et al.,2014), which aim to guide the way of thinking about urban green in other directions. Concludingly, there is a debate in the scientific field about how to think about and act in relation to urban green in policies. And it leads me to think in what ways policy concepts relating to urban green and/ or sustainability represent a particular worldview and help towards formulating an integral approach in policy.

At the same time viewpoints in relation to urban green in policies are in a way taken for granted in the following examples of earlier research. In the context of the Major Cities policy 'Grote Stedenbeleid 2005-2009', an analysis of the multiple years development programs (MOP's) of 2004, shows that in the thirty MOP's the 'role of green for improving liveability, health, economy and nature' is mentioned

to a very limited extent (RLG, 2005, p. 22). Research of Woestenburg (2010) contained asking questions to councillors of the 35 largest municipalities of the Netherlands about their cities past and future ambitions on green. Woestenburg concluded that these municipalities already made big steps, overall 'know what green could do to improve the living environment for citizens' and know how to make bigger steps to make urban green 'even more functional for the life of the city dweller' (Woestenburg, 2010, p.5). Research of Visschedijk (2014) showed the 'greenest cities of the Netherlands' with a calculation of the amount of public green in urban areas per dwelling in 31 cities of the Netherlands measured in 2009 and 2014, which showed growth and decline in the amount of green per dwelling (Visschedijk, 2014). Besides that, to what extent and in which way green in the city is mentioned in the different party programs of municipal elections in the Netherlands is analysed in 2006, 2010 and 2014 (Visschedijk & De Vries, 2014, p.5). This research shows that the majority of parties pay attention to the topic of urban green, but that in absolute numbers the term 'green' is mentioned in 2014 slightly less times compared to 2010 (Visschedijk & De Vries, 2014, p.29). The importance of green in these analysed party programs is mostly linked to improving health and the living environment of citizens, challenges of climate change and opportunities of self-management of urban green (Visschedijk & De Vries, 201, p.30). Concludingly, the focus of these researches on urban green in Dutch municipalities is mainly on quantifications and the instrumental value of urban green. This leads me to question why these researches on the topic of urban green in policy focussed on quantifications and the instrumental value of urban green and why these researches not focussed on other worldviews towards urban green.

Earlier research is also done about the new Environment and Planning Act and the resulting new policies. The experienced difficulties of reaching an integral approach and attitude for the Environmental Visions mentioned in a letter (*see 1.1.2 societal interest in urban green in policy)* to the Second Chamber of the Dutch government are based on a report about pilots of Environmental Visions commissioned by the Dutch Ministry of Infrastructure and Environment (Beroepsvereniging voor Nederlandse stedebouwkundigen en planologen [BNSP], 2016). This report advises to stimulate an integral approach by focussing on problems, integral themes, common interests and core values as 'prospective perspective' (Ministerie I&M, 2016, p.2). This leads to me to wonder which problems, integral themes, common interests and core values lead to an integral approach. A 'cultural change' is needed according to this report (BNSP, 2016) and experts (Hoorn, 2016) with more participation to facilitate more integrated approaches. More specifically, the new law gives no concrete interpretation or elaboration of sustainability, according to both the Dutch Institute for Public Health and Environment [RIVM] (2017) in their report 'Natural Capital and the Environment and Planning Act' and Kistenkas et al. (2017) with their book 'Law for green space'. So a questions raised here is how sustainability as an integral approach could be interpreted and elaborated in this new law and new policies. The new law provides no starting points to integrate health issues and sustainable development relating to our natural capital according to the RIVM. This institute advices to implement the 'natural capital' policy concept and give information and examples digitally for a more broad vision on our living environment, the value of it and sustainable management of our natural capital (RIVM, 2017, p.32). Kistenkas et al. (2017, pp.89-91) consider it a big error when sustainable development, interpreted by them as balancing the ecosystem services [ES] of people, planet and profit [3 P's of sustainability] for social justice, ecological justice and economic justice, would not be included as a main principle of the new 'Omgevingswet'. These two examples present the policy concepts of 'natural capital' and 'ES in combination with 3P's of sustainability' as solutions for an integral approach, but the report of BNSP (2016) also mentioned to focus on problems for an integral approach, which is central in this research. This brings me to ask how a focus on problems instead of policy concepts could lead to a more integrated approach for the new Environment & Planning Act and (its) new policies, which forms the background to my research questions that I will present later (*see section 1.3).*

1.2 Problem description

In the former section I ended with asking myself how a focus on problems could lead to more integrated policies. For my theoretical framework, I ended up with Bacchi's approach of 'What is the problem represented to be', which derives from critical discourse analysis (*see Chapter 2 Theoretical Framework)*. The societal problem (*section 1.2.1*) and scientific problem (*section 1.2.2*) I identified are elaborated below and are formulated based on this introduction and my theoretical framework. I

formulated a problem statement for this research based on my identified societal problem and scientific problem. This led me to the **problem statement:** *The wide range of viewpoints on urban green is not fully discussed and less room for the paradigm of 'problem-questioning' in research concerning urban green in policy limits the options for municipalities to frame what is 'the problem' in policies in relation to urban green.*

1.2.1 Societal problem

In the section about the background of this research I showed a range of viewpoints on urban green (in policy). I showed that the Dutch news and governments promote as well criticise urban green policies and policy concepts relating to urban green. Besides that, the upcoming new Environment & Planning Act with its new policies (Environmental Visions and Environmental Plans) aims for more integrated policies, but a question raised by me is what this will mean for urban green (*see 1.1.2 Societal interest in urban green)*. Based on my theoretical framework (*see next Chapter 2, section 2.2.2 Problem representations in policies)* I understand that policies create particular understandings of 'problems', according to Bacchi (2012, p.22). Municipalities and stakeholders are unaware that policies produce problem representations which influence what gets done or not done, and how people live their lives (Bacchi, 2007, p.2; Bacchi, 2012, p.22). For municipal policies concerning urban green applies: how the problem is framed has an influence on how solutions and objectives are framed. The formulation of the **societal problem** therefore is**:** *Currently, the wide range of viewpoints on urban green is not fully acknowledged and discussed, which limits the options for municipalities to frame what is 'the problem' in relation to urban green in policies.*

1.2.2 Scientific problem

In the background sketch of this research I showed that Dutch research has a lot of attention for policy concepts as presented solutions (such as 'natural capital'), quantifications (calculating green and 'greenest city' rankings) and instrumentally valuing green (green as a solution to something for human benefit). However, the range of viewpoints on urban green are debated among researchers. Besides that, the report on the pilots of developing Environmental Visions (BNSP, 2016) advises among other things to focus on problems in order to make these new policies of the new Environment and Planning Act more integrated (*see 1.1.3 Scientific interest in urban green*). My theoretical framework, presented in the next chapter, mentions that the current dominant way of thinking in policy is 'problem-solving', but that 'problems' in policies are not fixed or easily identifiable (Bacchi, 2012, p.23). There appears to be less room for 'problem-questioning' (*see section 2.2.1 Problem-questioning paradigm*). Through this MSc research I aim to build upon the contrasting paradigm of 'problem questioning' in relation to urban green in policies of Dutch cities. The **scientific problem** I aim to address in this project is: *At the moment, the dominant paradigm in scientific research about urban green in policies is 'problem-solving', which leaves less room for research on urban green in policies in the paradigm of 'problem-questioning'.*

1.3 Research objective and main research question

The **societal objective** relating to the societal problem is: *to provide insight of the status-quo how problems in relation to urban green are represented in Dutch municipal policies which are also input for the new Environmental Visions*. This status-quo update could be the motivation for policy makers to focus more on the formulation of problem representations in new policies and not copy but change current problem representations in policy. In the context of the new Environment and Planning law, it is important how problems in the new Environmental Vision are represented for a more integrated approach. In relation to the scientific problem, the **scientific objective** is: *to better understand problem representations in relation to urban green in policies and the origins and effects of these problem representations.* In this research, problem representations relating to urban green are examined to understand and reconsider among others assumptions, represented solutions and alternatives of these problem representations better (Bacchi, 2012). More research about creating better understanding of problem representations in relation to urban green, their effects and origins could lead to changing problem representations and also among others changing represented causes and represented solutions for more integrated future policy.

The societal objective and scientific objective of this research lead to the following **main research question**: *How are problems in relation to urban green represented in the most recent and/ or relevant municipal policies of the Dutch cities Amersfoort, Haarlem & Utrecht and what are the origins and effects of these problem representations?*

The main question focuses on 'the most recent and/ or relevant municipal policies' in order to provide insight of the status-quo how problems in relation to urban green are represented in Dutch municipal policies which are also input for the new Environmental Visions (*see societal objective).* This main research question and the additional sub-questions will be further elaborated at the end of the theoretical framework (*see 2.3 Conceptual model and research questions).* The choice for the selected Dutch cities will be explained in the methodology (*see 3.2 Data generation).*

An overview of the most important information of this introduction is schematically shown below (*see figure 1.3.1).* The societal and scientific field are separated in this introduction and in figure 1.3.1, but I find it important to emphasize that in the real world the relations between the societal and scientific world are more intertwined.

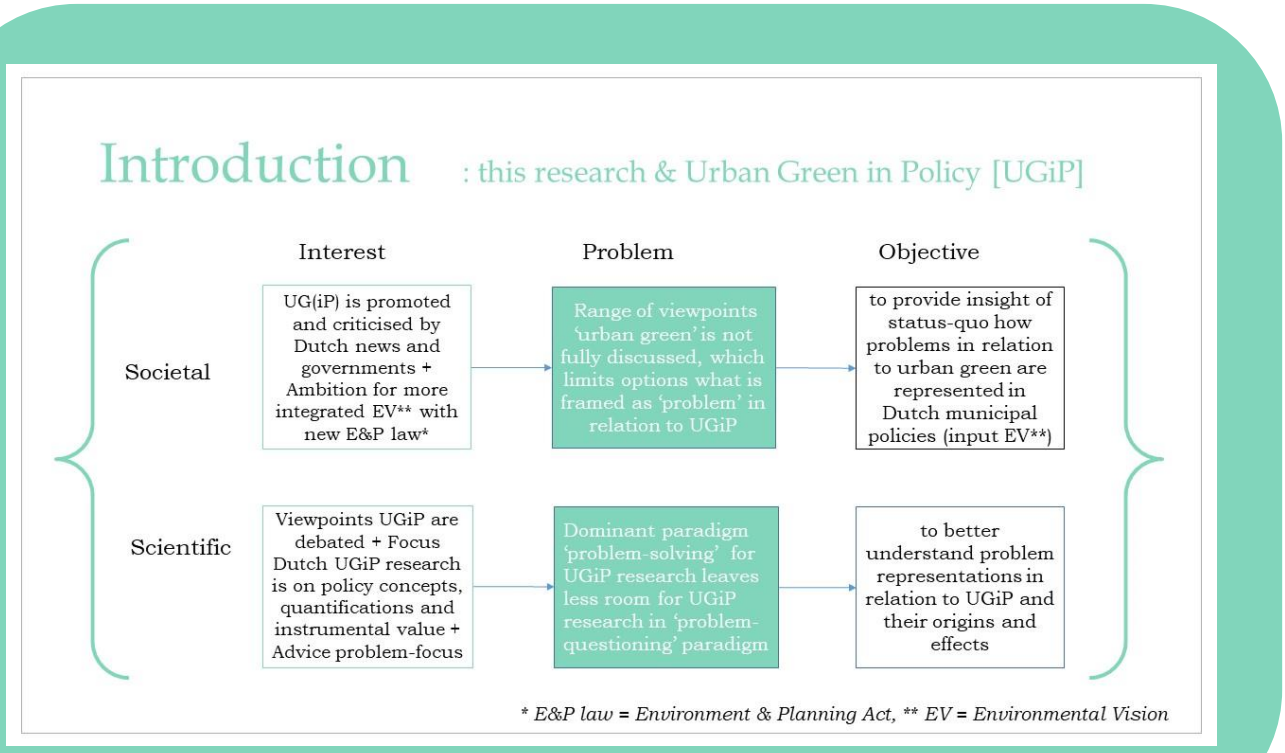


Figure 1.3.1 – Schematic overview of the introduction (Source: by author)

2. Theoretical Framework

In this chapter existing theories and concepts in the theoretical and empirical literature relevant for the research topic are discussed. First, the chosen school of thought is discussed from social constructionism to discourse theory and analysis to critical discourse analysis (*section 2.1).* Secondly, the paradigm of problem-questioning is elaborated towards the topic of problem representations in policies and finally, the 'What is the problem represented to be?'[WPR]-approach (*section 2.2*). Subsequently, the conceptual model represents those existing theories and concepts which are selected for this research. Lastly, based on these selected theories and concepts the research questions are formulated (*section 2.3).* The figure below shows how this theoretical framework narrows down from theory about social constructionism to the WPR-approach (*see figure 2.0).*

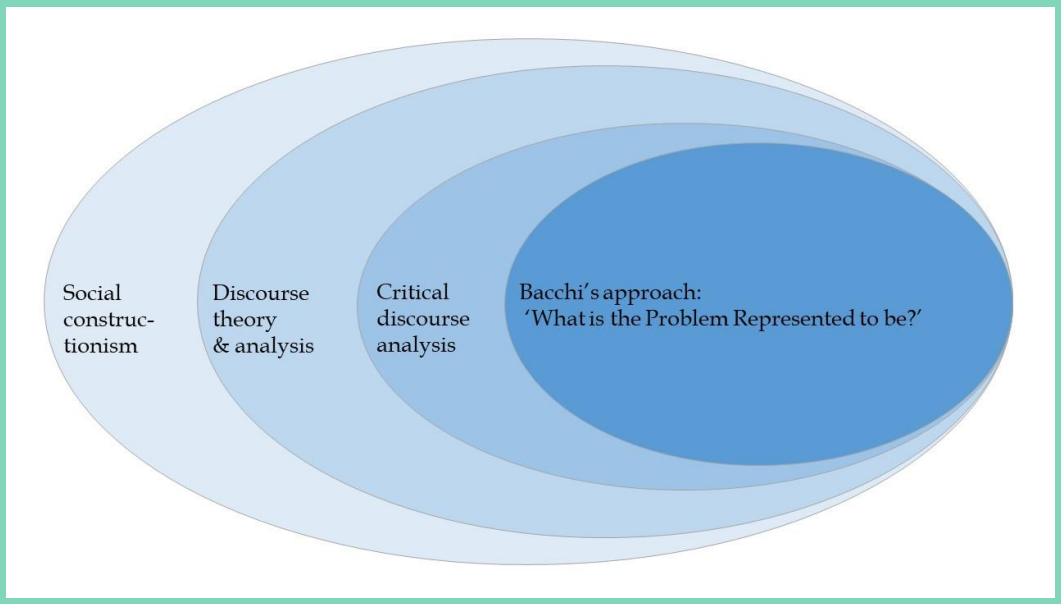


Figure 2.0 - Narrowing down from Social constructionism to the WPR-approach
(Source: by author)

2.1 Thinking in discourses

In the introduction the word 'discourses' is used. Thinking in discourses is part of a particular way of thinking about knowledge, reality and doing research. In this section the assumptions of the school of thought of social constructionism is explained. Secondly, I narrow down to discourse theory and analysis. I end this section with critical discourse analysis, which is selected for this research.

2.1.1 Social constructionism

In social sciences, different schools of thought exist how to think about our knowledge about the world (Boeije, 2009, pp.68-69), such as positivism, naturalism and constructionism (Silverman, 2014, p.53). In social constructionism, the following set of theories or shared assumptions about our knowledge about world applies (Jørgensen & Phillips, 2002, pp.5-6):

- that our knowledge about the world is not all the objective truth
- that our knowledge about the world is culturally and historically specific.
- that our knowledge about the world is created and maintained (constructed) through social processes in which what is true or false is competed in order to create and maintain 'our truths'.
- that our knowledge about the world are social understandings of the world, in other words a particular worldview, which leads to particular social actions which seem natural and other social actions which seem unthinkable.

This research takes part in the school of thought of social constructionism. It is about thinking in worldviews and that knowledge is constructed. In this research, a particular worldview is grasped by means of a discourse, which refers to discourse analysis.

2.1.2 Discourse theory and analysis

Discourse analysis is one form of analysis in social constructionism (Jørgensen & Phillips, 2002, p.4). The concept 'discourse' itself has been criticised for being a vague concept, which has been delineated with different meanings in different contexts (Jørgensen & Phillips, 2002, p.1). A 'discourse' could be seen as a pattern in use of language, and so 'discourse analysis' is the analysis of patterns in use of language in talks or texts according to Jørgensen & Phillips (2002, p.1). Silverman (2014, p.452) adds to that: when studying the pattern, the focus is on the rhetorical and argumentative organisation of talks or texts. According to Sharp & Richardson (2001, p.193) a discourse is the combination of three elements: text or talk, systems of thought and action. The focus according to Rose (2012, p.190) in discourse analysis is on:

"Groups of statements that structure the way a thing is thought, and the way we act on the basis of that thinking".

When doing discourse analysis, four aspects are connected. The basis of discourse analysis are the philosophical premises about ontology and epistemology regarding the role of language in constructing our worldview. The philosophical premises (1) and particular discourse theory (2) influence how to approach a research domain relating to the methods (3) and finally, which particular techniques for analysis (4) are favoured (Jørgensen & Phillips, 2002, p.4). No clear consensus exist on what 'discourses' actually are and how to analyse them; there are many different approaches, which also could be combined to better suit the context of the phenomena studied (Jørgensen & Phillips, 2002, pp.1-4). In this research I use the theory of a discourse consisting of 'text', 'systems of thought' and 'action' of Sharp & Richardson (2001, p.193), because it suits the problem representations studied (*this is further elaborated in section 2.3 Conceptual model and research questions*).

2.1.3 Critical discourse analysis

Critical discourse analysis is a form of discourse analysis. Critical discourse analysis is defined by Silverman (2014, p.452) as:

"A form of discourse analysis which focuses on the ideological effects of texts and is particularly concerned with themes like power, gender, race and class."

The emphasis on the effects of texts suits my main question which focuses on the effects of problem representations in policy (*see 1.3 Research objective and main research question)*. The notion that problem representation are created (Bacchi, 2012, p.22), as discussed in the section about my societal problem (*see 1.2.1 Societal problem*), refers to the focus on power of critical discourse analysis. Furthermore, the name of Fairclough is an important name to mention when discussing critical discourse analysis (Rose, 2012, p.194). Fairclough's critical discourse analysis focuses on how discourses are reproduced and changed (Jørgensen & Phillips, 2002, p.138). To say something about how different discourses are mixed and/ or changed in particular texts, it is essential to set these discourses against some sort of background and reflect on it (Jørgensen & Phillips, 2002, p.140). Reflecting on the background of particular, earlier and mixed discourses could be done by looking at existing studies relating to the social domain under study (Jørgensen & Phillips, 2002, p.141). This research focuses on problem representations in relation to urban green in policy. Chapter 4 therefore sets a background of existing policy concepts relating to urban green in order to be able to identify the particular, mixed or slightly changed discourses in the policy documents studied (*see chapter 4 Quickscan)*.

2.2 Problem-questioning

The focus in this study is on problem representations, which fits in the problem-questioning paradigm of scientific research. Specifically, the focus is on problem representations in policies. I have chosen the 'What's the problem represented to be?'- approach, shortened WPR-approach by Carol Bacchi (2012) as theory which suits this focus on problem representations in policies.

2.2.1 Problem-questioning paradigm

The problem-questioning paradigm is a reaction to the problem-solving paradigm in society and research. In the introduction of this MSc Thesis (*see chapter 1)* I gave an example of research which promotes urban green for: attracting businesses and residents, public health issues, increasing biodiversity and new challenges of climate change (Visschedijk, 2012, pp.3-5). In this way urban green itself is seen as a solution to four appointed problems. However, these four problems represent different viewpoints for development: economic, social, ecological and sustainable development (Kistenkas et al., 2017, p.89). Besides that, this example takes for granted that green is a solution and not a problem which represents also a specific viewpoint on urban green. Currently, the dominant way of thinking in politics and social life is 'problem-solving', but 'problems' in policies are not fixed or easily identifiable according to Bacchi (2012, p.23). Flyvberg (2004, p.302) also suggests to problematize the contestable truths which are taken for granted in planning and demands researchers to focus on who gains and who loses in the presentations of in these particular truths. In the scientific field, researchers are asked to deliver 'solutions' to pre-given 'problems', rather than to question these problems which are addressed according to Bacchi (2010, p.10). A counter-paradigm or counter-discourse against the 'problem-solving' paradigm is emerging. Bacchi called it the paradigm of 'problem questioning' (Bacchi, 2010, p. 11). This MSc Thesis is an addition to the paradigm of problem-questioning. This is an answer to the identified scientific problem in the introduction (*see 1.2.2 Scientific problem*), claiming that the dominant paradigm of problem-solving leaves less room for problem-questioning, because with this MSc Thesis more room is created for 'problem-questioning'.

2.2.2 Problem representations in policies

Within the problem-questioning paradigm, this research focuses on problems in policies. According to Foucault, the best way to access how the people who govern are thinking about an issue, is to examine the ways in which particular issues are conceived as 'problems' (Bacchi, 2010, p.5; Foucault, 1988 [1984]). Instead of a reactive approach of governments to fixed and identifiable problems, governments give in public policy a particular shape to societal problems and have an active approach to understanding particular problems according to Bacchi (2007, p.1). Bacchi speaks of 'problem representations', which are competing understandings of particular social issues (Bacchi, 2007, p.1). The goal is to see if **conflicting representations** of the 'problem' appear in policies according to Bacchi (2010, p.3). In my conceptual model (*see 2.3 Conceptual model and research questions)* I therefore added 'conflicts' as an effect of problem representations in policy, specifically a discursive effect (Bacchi, 2010, p.4). The goal of focussing on problems should be about clarifying causes and consequences of given problems according to Flyvbjerg (2006, p.13):

"From both an understanding-oriented and an action-oriented perspective, it is often more important to clarify the deeper causes behind a given problem and its consequences than to describe the symptoms of the problem and how frequently they occur."

This quote refers to the scientific objective of this MSc Thesis, because the scientific objective is about understanding the problem representations and their origins and effects better (*see section 1.3)*.

Concepts are also used in policies and could also be used in problem representations. A contested concept is a concept which has a variety of meanings in different contexts (Bacchi, 2010, pp.2-3). The goal is to uncover the different meanings attached to a contested concept in particular policies according to Bacchi (2010, p.3).

Policies produce particular problem representations which effects what gets done or not done and how people live their lives (Bacchi, 2007, p.2; Bacchi, 2012, p.22). Unintentionally and intentionally these problem representations could be created to win votes or to pursue a particular political agenda (Bacchi, 2007, p.1). To change the status-quo critical questions need to be asked relating to policies and policy proposals according to Bacchi (2012, p.21).

2.2.3 Bacchi's WPR-approach

Bacchi developed an approach to critically analyse policies based on the question: 'What is the problem represented to be?' as a form of critical discourse analysis (Bacchi, 2007; Bacchi, 2012).

The six questions of the WPR-approach by Carol Bacchi (2012, p.21) are:

1. *"**What's the 'problem'** (for example,'global warming') **represented to be in a specific policy or policy proposal?***
2. *What presuppositions or assumptions underpin this representation of the 'problem'?*
3. ***How has this representation of the 'problem' come about?***
4. ***What is left unproblematic** in this problem representation? Where are the silences? Can the 'problem' be thought about differently?*
5. ***What effects are produced by this representation of the 'problem'?***
6. *How/where has this representation of the 'problem' been produced, disseminated and defended? How has it been (or could it be) questioned, disrupted and replaced?"*

In my view the WPR-approach of Bacchi (2012) overlaps and is partly similar to the three elements of discourses from Sharp and Richardson (2001, p.193) relating to the text, the systems of thought and action (*see 2.1.2 Discourse theory and analysis)*. The focus in WPR-approach is first of all on the problem representations in the text. Secondly, it is asked how these problem representations come about, or in other words the origins of problem representations, which relates to the systems of thought of the discourse. Thirdly, it is advised to think about the effects of the problem representations, which results into the actions of a discourse. These three elements are below discussed more in detail.

First of all the problem representations in the text of policies are studied. The task is to identify what is represented as the problem. This refers to the first question of the WPR-approach. The insight of Bacchi builds upon the common sense understanding that:

"*What we propose to do about something reveals what we think needs to change and hence what we think **the 'problem'** is"* (Bacchi, 2010, p.2).

To structure this sentence: what policies propose to do (is seen as the solution) about something (is seen as the cause) reveals what one thinks is problematic (is seen as the problem) (Bacchi, 2012, p.21). In this following example of Bacchi, it is explained how the problem representation and the represented solution can be identified:

*"Following the logic of the question 'What's the problem represented to be?', if 'training programs' is the proposal (**'the solution'**), then clearly it is assumed that women's lack of training is 'the problem'"* (Bacchi, 2010, p.3).

So, if 'training programs' is proposed as 'the solution' in policy, then it is assumed that 'lack of training' is 'the problem' (Bacchi, 2010, p.3). Bacchi shows that the represented cause can be identified in policy:

"*Presuppositions about causes can often be 'read off' from specific policy proposals. That is, what someone says they will do about something often indicates what they believe needs to change and hence **what they believe to be the cause of a problem**"* (Bacchi, 2007, pp.1-2).

What needs to change according to a specific policy is mostly seen as the cause of a problem (Bacchi,

2007, pp.1-2). So, by identifying what is proposed to do (the represented solution) and what is proposed to be changed (the represented cause) helps to identify what is the problem represented to be.

The second focus of the WPR-approach is on how these problem representations come about. This focus refers to the third question of the WPR-approach. Bacchi's approach assumes that knowledge is not neutral. The WPR-approach takes the contribution of Foucault into account about the connections between knowledge and power (Bacchi, 2010, p.9; Foucault, 1980). **Power**, according to Foucault, is both a productive and a constraining force; it creates and at the same time limits what can be said and what cannot be talked about and what is true and false. The focus of Foucault is therefore on how different regimes of knowledge determine what is true or false and how effects of 'the truth' are created and maintained (Foucault, 1980; Jørgensen & Phillips, 2002, pp.13-14). When analysing the policy text the question should be asked: What '**knowledges'** are assumed in how the 'problem' is shaped in the text? (Bacchi, 2010, p.2). It is suggested to reflect on how regulations and practices which affect lives are **justified** (Bacchi, 2010, p.4):

"The objective in studying forms of rule is to reflect on how specific regulations and practices affect our lives, and where they come from (how they are justified)" (Bacchi, 2010, p.4).

In this quote, 'forms of rule' refers to the aspect of 'power' and 'regulations and practices', which are based on assumed 'knowledge', could be justified.

The third focus in the analysis of these problem representations is on the effects. This focus on the effects of texts connects to critical discourse analysis (*See 2.1.3 Critical Discourse analysis).* Particular impressions of what the problem is result into effects for those effected (Bacchi, 2010, p.2). Bacchi came up with three interconnected forms of effects which relate to the fifth question of the WPR-approach (Bacchi, 2010, p.4):

1. *"**discursive effects** (affecting what is discussed and not discussed);*
2. ***subjectification effects** (how people think about themselves and affecting how people think about them);*
3. ***lived effects** (affecting the impact on life and death)."*

In conclusion, the words that are made bold in this section are operationalised for the conceptual model of this research (*see next section 2.3).* The first *(What's the 'problem' represented to be in a specific policy or policy proposal?*), third (*How has this representation of the 'problem' come about?)* and fifth (*What effects are produced by this representation of the 'problem')* question of the WPR-approach (Bacchi, 2012, p.21) are merged together for the main question of this research and separately these questions are similar to the three sub-questions of this research (*see table 2.3*). The aspect 'what is left unproblematic' of the fourth question of the WPR-approach (Bacchi, 2012, p.21) is operationalised into the concept 'left out problems' as part of the effects of problem representations. The concept 'left out problems' also derives from the discursive effects of the WPR-approach (Bacchi, 2010, p.4). 'The problem' (Bacchi, 2010, p.2) is the 'represented problem' or 'problem representation' what is tried to be identified in the first question of the WPR-approach and the first sub-question of this research. 'The solution' (Bacchi, 2010, p.3) is the concept 'represented solution' in the conceptual model, which helps to identify the problem representation. Secondly, the concept 'represented solution' is also interpreted as a lived effect of the WPR-approach (Bacchi, 2010, p.4) and is one of the effects of the problem representation. 'What they believe to be the cause of the problem'(Bacchi, 2007, p.2) is the 'represented cause' in the conceptual model and helps to identify the problem representation, but is also an origin of the problem representation. The concept of 'power' (Foucault, 1980) is not changed in the conceptual model and is identified as another origin of problem representations. Foucault (1980) acknowledged the connection between power and knowledge, but in the conceptual model the aspect of 'knowledges' (Bacchi, 2010, p.2) is identified as a separate concept 'knowledge' part of the origin of problem representations. The aspect 'justified' (Bacchi, 2010, p.4) is turned into the concept 'justifications' as

an origin of problem representations in the conceptual model. Lastly, the aspect of 'subjectification effects' is turned into the concept 'subjectification of urban green', because urban green is the domain studied in this research.

2.3 Conceptual model and research questions

The conceptual model and research questions are based on the theoretical framework, as described in this chapter and in table 2.3 as presented below.

Table 2.3 - How the bold words in the theoretical framework are operationalised into the conceptual model and research questions (Source: by author & see table)

Bold words in the theoretical framework:	**Operationalised into element or concept of conceptual model or research question:**	
-*"**What's the 'problem'** (for example,'global warming') **represented to be in a specific policy or policy proposal?"* is the first question of the WPR-approach (Bacchi, 2012, p.21) -*"**How has this representation of the 'problem' come about?"* is the third question of the WPR-approach (Bacchi, 2012, p.21) -*"**What effects are produced by this representation of the 'problem'?"* is the third question of the WPR-approach (Bacchi, 2012, p.21)	The main question	*How are problems in relation to urban green represented in the most recent and/ or relevant municipal policies of the Dutch cities Amersfoort, Haarlem & Utrecht and what are the origins and effects of these problem representations?*
-*"**What's the 'problem'** (for example,'global warming') **represented to be in a specific policy or policy proposal?"* is the first question of the WPR-approach (Bacchi, 2012, p.21) -"*what we propose to do about something reveals what we think needs to change and hence what we think **the 'problem'** is "* (Bacchi, 2010, p.2). To structure this sentence: what policies propose to do (is seen as the solution) about something (is seen as the cause) reveals what one thinks is problematic (is seen as the problem) (Bacchi, 2012, p.21).	Element	Problem representations in policy
	First sub-question	*1. What is the problem represented to be in relation to urban green in the most recent and/ or relevant municipal policies of the Dutch cities Amersfoort, Haarlem and Utrecht?*
	Concept	Represented problem
*"**How has this representation of the 'problem' come about?"* is the third question of the WPR-approach (Bacchi, 2012, p.21)	Element	Origins of problem representation
	Second sub-question	*2. How have these problem representations in relation to urban green come about in these policies?*
What **'knowledges'** are assumed in how the 'problem' is shaped in the text? (Bacchi, 2010, p.2).	Concept	Knowledge
"*Presuppositions about causes can often be 'read off' from specific policy proposals. That is, what someone says they will do about something often indicates what they believe needs to change and hence **what they believe to be the cause of a problem**."* (Bacchi, 2007, pp.1-2).	Concept	Represented cause(s)
Power, according to Foucault, is both a productive and a constraining force (Foucault, 1980; Jørgensen & Phillips, 2002, pp.13-14)	Concept	Power
It is suggested to reflect on how regulations and practices which affect lives are **justified** (Bacchi, 2010, p.4).	Concept	Justifications
*"**What effects are produced by this representation of the 'problem'?"*** is the third question of the WPR-approach (Bacchi, 2012, p.21)	Element	Effects of problem representation
	Third sub-question	*3. What are the effects for urban green of these problem representations in these policies?*
-*"**lived effects** (affecting the impact on life and death)"* (Bacchi, 2010, p.4) -*"Following the logic of the question 'what's the problem represented to be?', if 'training programs' is the proposal **('the solution')**, then clearly it is assumed that women's lack of training is 'the problem'."* (Bacchi, 2010, p.3)	Concept	Represented solution
-*"**What is left unproblematic** in this problem representation?"* of fourth question of WPR-approach (Bacchi, 2012, p.21) -*"**discursive effects** (affecting what is discussed and not discussed)"* (Bacchi, 2010, p.4)	Concept	Left out problems
-The goal is to see if **conflicting representations** of the 'problem' appear in policies according to Bacchi (2010, p.3). - *"**discursive effects** (affecting what is discussed and not discussed)"* (Bacchi, 2010, p.4)	Concept	Conflicts
*"**subjectification effects** (how people think about themselves and affecting how people think about them)"* (Bacchi, 2010, p.4)	Concept	Subjectification of urban green

In summary, based on the discussion of the exiting literature above, I combined a few (elements of) existing theories to form a conceptual model (*see figure 2.3)*. First of all, this research is part of thinking in social constructionism; I think in 'worldviews' (Jørgensen & Phillips, 2002, pp.5-6). Discourse analysis is one form of analysis within social constructionism. Sharp & Richardson (2001, p.193) describe a discourse as 'the text', 'the systems of thought' and 'action'. The theory of Carol Bacchi (2012, p.21) 'What's the problem represented to be?' is used and is minimized from six questions into three elements that practically match the description of discourse of Sharp and Richardson (2001, p.193): 'origins of problem representations', 'problem representations in policy' and 'effects of problem representations' (*see figure 2.3)*. With respect to identifying 'problem representations in policy', Bacchi (2010, p.2; 2012, p.21) showed that by separating the represented solution and the represented cause the represented problem could be identified. With respect to the 'origins of problem representations', the following concepts are identified for the conceptual model: 'knowledge', 'represented cause(s)', 'power' and 'justifications'. These concepts derive from words of Bacchi (2007, pp.1-2; 2010, pp.2-4), Foucault (1980) and Jørgensen & Phillips (2002, pp.13-14). While being aware that Foucault highlights the connection between 'power' and 'knowledge' (Bacchi, 2010, pp. 4-9; Foucault, 1980) and that 'represented cause(s)' and 'justifications' additionally could overlap, the choice is made to separate these concepts in order to increase understanding of the origins of problem representations (*see scientific objective, section 1.3*). With respect to the 'effects of problem representations', the following concepts are identified as effects: 'represented solutions', 'left out problems', 'conflicts' and 'subjectification of urban green'. The discursive effects of Bacchi (2010, p.4) are explained by the concepts 'left out problems' and 'conflicts', deriving from words used by Bacchi (2010, pp.3-4; 2012, p.21). The lived effects of Bacchi (2010, p.4) are elaborated by the concept 'represented solution'. The subjectification effects of Bacchi (2010, p.4) are operationalized by focussing only on subjectification on the domain studied in this research. The social domain studied in this research is urban green in policy.

The arrows in the conceptual model represent the relations between the three elements. The idea is that the origins of problem representations influence problem representations in policy. Problem representations in policy in turn lead to particular effects. To complete the circle: these effects of problem representations could lead to origins of problem representations. The idea is that understanding this circle and giving insight into crucial connections could inspire critical questioning which could, as proposed by Bacchi (2012, p.21), lead to changing the status-quo.

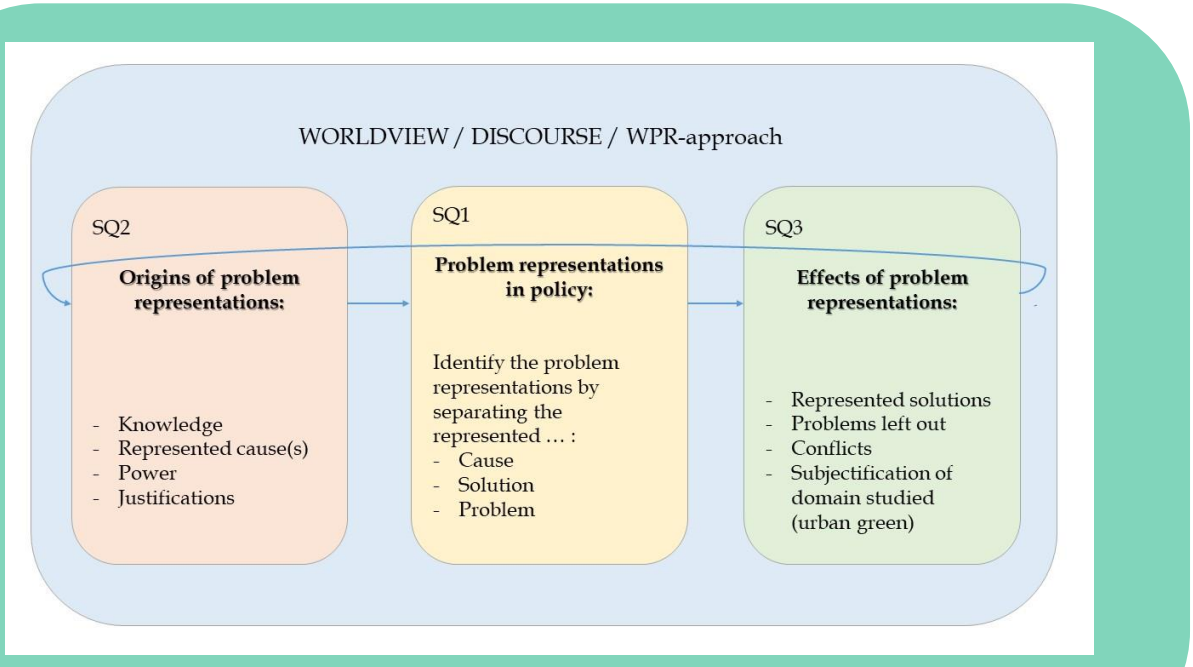


Figure 2.3 - Conceptual model (Source: by author)

The conceptual model (*see figure 2.3)* also shows that the three elements of 'origins of problem representations', 'problem representations in policy' and 'effects of problem representations' form the three sub-questions of this research. SQ1 is shortened for the first sub-question, SQ2 stands for the second sub-question and SQ3 refers to the third sub-question. Based on the societal and scientific objective of this research and the conceptual model, research questions have been formulated. In order to give insight and understanding into problem representations in policies concerning urban green (*see 1.3 Research objective and research question*), this research starts with a descriptive main question about 'how things are the way they are' (Verschuren & Doorewaard, 2010, pp.94-96). The main question in a way summarizes the sub-questions (*see below)*. Three sub-questions are formulated, which together help to answer the main question. The goal of these sub-questions is to on the one hand give information which contributes to the research objective and on the other hand give an indication about the activities needed how to acquire this knowledge (Verschuren & Doorewaard, 2010, pp.94-97). The main question and three sub-questions are formulated as follows:

Main Question: *How are problems in relation to urban green represented in the most recent and/ or relevant municipal policies of the Dutch cities Amersfoort, Haarlem & Utrecht and what are the origins and effects of these problem representations?*

Sub-questions:

1. *What is the problem represented to be in relation to urban green in the most recent and/ or relevant municipal policies of the Dutch cities Amersfoort, Haarlem and Utrecht?*
2. *How have these problem representations in relation to urban green come about in these policies? (what are their origins)*
3. *What are the effects for urban green of these problem representations in these policies?*

The research questions are further elaborated in the next chapter (*see chapter 3 Methodology).* The underlying concepts of the conceptual model are used for the data generation and data analysis (*see next chapter 3 Methodology)* as sensitizing concepts (Boeije et al., 2009, p.256), guiding me to the relevant characteristics of problem representations relating to urban green. In order to say something about the problem representations in relation to urban green in the most recent and/ or relevant municipal policies of the selected cities, it is according to Jørgensen and Phillips (2002, p.141) necessary to sketch a background of problem representations in relation to urban green (*see 2.1.3 Critical discourse analysis*). In chapter 4, I will therefore present a quickscan of the implied problem representations that I identified as connected to policy concepts relating to urban green *(see chapter 4 Quickscan).*

3. Methodology

The choices I made for the overall methodological design *(section 3.1)*, data generation *(section 3.2)* and data analysis *(section 3.3)* of this research are discussed below. This chapter ends with describing ethical considerations, trustworthiness strategies and limitations of this research *(section 3.4)*.

3.1 Overall methodological design

In this section I discuss my overall methodological design and I describe the type research of this MSc Thesis (*section 3.1.1)*, the methods I used *(section 3.1.2)* and in what way this research was a cyclic iterative process *(section 3.1.3)*.

3.1.1 Type of research

Reflecting on the objective and research questions of this research (*see section 1.3 and 2.3)*, this MSc Thesis is characterised as qualitative research. Qualitative research seeks understanding of behaviour, experiences and 'products' of people by describing phenomena in context, interpreting processes or meanings and using theoretically based concepts (Boeije, et al., 2009, p.253; Silverman, 2014, p.5). Aiming towards understanding behaviour, experiences and 'products' of people suits my scientific objective: *to better understand problem representations in relation to urban green in policies and the origins and effects of these problem representations.* The central focus of this study is on problem representations in policy in relation to the topic of urban green and their origins and effects. The problem representations itself and the origins and effects of problem representations are the phenomena or processes which are described and interpreted. The concepts and elements used in my conceptual model (*see figure 2.3)* are based on theories and theoretical concepts of Bacchi (2012, p.21), Foucault (1980) and Sharp and Richardson (2001, p.193) (*see section 2.3)*. The theoretical elements of this research are problem representations in policies, origins of problem representations and effects of problem representations, which represent a form of critical discourse analysis (*see 2.2.3 Bacchi's WPR-approach)*. Critical discourse analysis is a form of discourse analysis (*see 2.1.3 Critical Discourse Analysis)*. Discourse analysis is based on philosophical assumptions within the school of thought of social constructionism (*see 2.1.2 Discourse theory and analysis)*. Since the research questions of this research are built upon philosophical assumptions (of social constructionism) and a theoretical model of (critical) discourse theory, the overall methodological design is connected to discourse approaches how to collect and analyse data (Jørgensen & Phillips, 2002, p.4). In my theoretical framework (*see 2.1.3 Critical discourse analysis)* it is mentioned by Jørgensen & Phillips (2002, pp.140-141) that it is essential in critical discourse analysis to have some sort of background of the domain under study to reflect on in order to interpret how different discourses are mixed and/ or changed in particular texts. Chapter 4 therefore presents a quickscan of the implied problem representations that I identified as connected to policy concepts relating to urban green *(see chapter 4 Quickscan)*. This research is therefore: exploratory, descriptive and interpretive. In short this research is: a critical discourse analysis of problem representations in relation to urban green in policies and their origins and effects.

3.1.2 Methods

How the main question and sub-questions are framed determines which data the researcher is searching for. The particular research question gives focus and filters which data is relevant and which is not relevant to answer the question (Schwartz-Shea & Yanow, 2012, p.79). To answer the main question '*How are problems in relation to urban green represented in the most recent and/ or relevant municipal policies of the Dutch cities Amersfoort, Haarlem & Utrecht and what are the origins and effects of these problem representations?'* a mix of methods is used: document-analysis and interviews (Silverman, 2015, p.141). The main question is answered according to my interpretation of the selected policy documents and interview transcripts of the selected policy makers and/ or municipal officials. The first sub-question of this research '*1.What is the problem represented to be in relation to urban green in the most recent and/ or relevant municipal policies of the Dutch cities Amersfoort, Haarlem and Utrecht?'*

explores what 'the problem' in relation to urban green is according to my interpretation of the main problem represented to be in the most recent and most relevant municipal policy documents. Additionally, this first sub-question is answered according to my interpretation of the interview transcripts in which the interviewees mention what according to them is the main 'problem'. The two other sub-questions '*2.How have these problem representations in relation to urban green come about in these policies? (what are their origins)'* and '*3.What are the effects for urban green of these problem representations in these policies?'* are strongly connected and followed up by the first sub-question. These last two sub-questions are even harder to answer with only the selected policy documents and a literature study, although these two sources could also provide interesting information. Similarly as for the first sub-question, the second and third sub-question are answered based on my interpretation of the policy documents and the interview transcripts.

These three sub-questions (which represent the three elements: problem representations in policy, origins of problem representations and effects of problem representations) are together with the sensitizing concepts of the conceptual model (*see section 2.3*) operationalized into interview questions for the selected participants (*see Interview questions in Appendix B and table 3.1.2B*). The concepts 'justifications' and 'conflicts' are by exception not operationalised into interview question, because I wanted to identify these between the lines of the given answers to other questions by myself (*see table 3.1.2B)*. The chosen type of interview is a semi-structured interview (Silverman, 2014, p. 166). In this way all interviews are steered by the same open-ended questions, but probes are possible to ask for more details or for clarification for example (Silverman, 2015, p.150). The interview transcripts and policy documents are analysed with the help of a coding scheme (*see Coding Scheme in Appendix C)* which is based on the conceptual model (*see figure 2.3)*. All sensitizing concepts presented in the conceptual model are included in the coding scheme.

The main question names the three case studies: Amersfoort, Haarlem and Utrecht. For every selected municipality, I have conducted in total 13 document-analyses of these municipality's most recent and/or relevant policies relating to urban green and 8 interviews with policymakers and/ or municipal officials (*see table 3.1.2A)*. The choices for these municipalities, these documents and these participants are explained in the next section about data generation (*see 3.2 Data generation).*

Table 3.1.2A - Amount of document-analyses and interviews (Source: by author)

Municipality	Document-analysis	Interviews
Amersfoort	4	4
Haarlem	5	2
Utrecht	4	2
Total	13	8

3.1.3 Cyclic iterative process

This research is designed to be flexible (Schwartz-Shea & Yanow, 2012, p.71; Silverman, 2015, p.147). First of all, because I did not have control over the accessibility and will of the selected persons to participate in the interviews (Schwartz-Shea & Yanow, 2012, p.71). Since I wanted information from the selected persons, these persons are in a way in power and are not seen as subjects. Some participants have for example cancelled an interview, asked for certain conditions for the interview (meeting location, time frame) or had other ideas about which knowledge they would like to share or on which questions they have knowledge to share (Schwartz-Shea & Yanow, 2012, p.73). Secondly, the initial research design is built upon my prior knowledge. Reasoning that data generation and data analysis is a learning process, the research design is adjusted due to new insights acquired during the research process (Schwartz-Shea & Yanow, 2012, p.73). I noticed during the interviews for example that some of these interview questions were experienced by the interviewees as too abstract or unclear and I therefore adjusted these questions until the final form (*see Interview questions in Appendix B*). In a similar vein, the research questions have been further developed during this iterative process, to allow this qualitative research to be led to an extent by what emerged in the field (Boeije et al., 2009, p.256).

Table 3.1.2B – How the Conceptual model and research questions are operationalised into interview questions (Source: by author & see Interview questions in Appendix C)

Element or concept of conceptual model or research question:		Operationalised into interview question:
Main research question	The underlined aspect of the main question: *How are problems in relation to urban green represented in the most recent and/ or relevant municipal policies of the Dutch cities Amersfoort, Haarlem & Utrecht and what are the origins and effects of these problem representations?* has led to the following opening and final questions for my own orientation about the knowledge of the interviewee.	*1. In hoeverre bent u **bekend en betrokken** met het gemeentelijkbeleid omtrent stedelijk groen (en blauw)?* *1.1 Op het gebied van stedelijk groen, waar zijn jullie **momenteel mee bezig** (qua projecten, beleidsdocumenten, etc.)?* *1.2 Wat betreft stedelijk groen, wat zijn nu de **geldende en belangrijkste** beleidsdocumenten? (Waarom belangrijkste? Wat staat daarin wat belangrijk is?)* *5. Welke andere relevante documenten / personen zou u mij aanbevelen te bekijken/spreken om een betere beeld te krijgen van problemen omtrent stedelijk groen waar de gemeente zich mee bezig houdt?*
Element	Problem representations in policy, →Identify the problem representation by separating the represented problem, represented cause and represented solution.	*→1.1* *2. Wat zijn **specifieke issues** wat betreft stedelijk groen voor jullie gemeente?* *2.1 Op het gebied van stedelijk groen, wat is volgens u het **kernprobleem/ hoofdproblemen** die de gemeente probeert aan te pakken? (uitdagingen/ opgaven)* *2.2 Wat maakt het **lastig**? Wat wordt daarbij gezien als de **oorzaak** van het probleem?* *2.3 In welke **beleidsdocumenten** komen volgens u deze problemen en oorzaken duidelijk naar voren? (Waarom niet?)*
First sub-question	*1. What is the problem represented to be in relation to urban green in the most recent and/ or relevant municipal policies of the Dutch cities Amersfoort, Haarlem and Utrecht?*	
Concept	Represented problem	
Element	Origins of problem representation	*3. **Hoe zijn jullie gekomen** op de focus op deze problemen/ uitdagingen met betrekking tot stedelijk groen?*
Second sub-question	*2. How have these problem representations in relation to urban green come about in these policies? (what are their origins)*	
Concept	Knowledge	*3.1 Is het hoofdprobleem wat u zojuist noemde **gebaseerd op eerdere kennis**?*
Concept	Represented cause	*→2.2*
Concept	Power	*3.2 Welke **argumenten** zijn **dominant** als het gaat om stedelijk groen (is dat veranderd in de loop der tijd?)* *3.3 **Wie** heeft invloed op welke argumenten wat betreft stedelijk groen dominant zijn (is dat veranderd in de loop der tijd)?*
Concept	Justifications	Justifications are identified between the lines of the given answers to the other questions.
Element	Effects of problem representations	*4. Het wel/ niet noemen van problemen (m.b.t. stedelijk groen) in beleid, wat zijn denkt u de **effecten of gevolgen** daarvan?*
Third sub-question	*3. What are the effects for urban green of these problem representations in these policies?*	
Concept	Represented solutions	*→1.1* *4.1 Welke **oplossingen/ projecten** staan centraal in het meest recente en/ of relevante beleid omtrent stedelijk groen en hoe staan die in relatie met het hoofdprobleem die u noemde?* *4.4 In hoeverre zijn jullie bezig met het opstellen van een **Omgevingsvisie** en wat nemen jullie daarin mee?*
Concept	Left out problems	*3.4. Zijn er volgens u bepaalde relevante problemen NIET genoemd in het meest recente/relevante beleid omtrent stedelijk groen? En kunt u mogelijk verklaren waarom bepaalde problemen m.b.t. stedelijk groen **NIET zijn genoemd**?* *4.3 Hoe is de gemeente van plan te dealen met de **problemen die nog niet (of niet duidelijk) in beleid** genoemd zijn, maar die nu al gevolgen met zich meebrengen?*
Concept	Conflicts	Conflicts are identified between the lines of the given answers to the other questions.
Concept	Subjectification of urban green	*→3.2* *4.2 **Wie-of wat** (bepaalde groep/ thema) staat er voorop in het beleid omtrent stedelijk groen (bij het beleid, of bij de uitvoering)? Welke groepen ondervinden **voordelen** en welke **nadelen**?*

3.2 Data generation

In interpretative research, data is not seen as 'collected', but as 'generated'(Schwartz-Shea & Yanow, 2012, p.78). The reasoning behind this is that when I as a researcher selected particular documents, data was generated by me. When I interviewed participants, data was co-created by the participants and me as the interviewer (Schwartz-Shea & Yanow, 2012, pp.79-80). Access to particular participants and documents are for example denied, which directed and limited my choices. Also my prior knowledge or prior judgement about the content of these documents or the positionalities of these participants in relation to urban green influenced my choices, because interpretative researchers want to analyse documents or participants that matter(ed) to the topic under study (Schwartz-Shea & Yanow, 2012, p.70). The selection is based on theory, purpose or snowballing. Snowballing means that one participant or document leads to another participant or document (Boeije et al, 2009, p.263; Schwartz-Shea & Yanow, 2012, p.86). In the following sections, I explain my selection of the case studies Amersfoort, Haarlem and Utrecht (*section 3.2.1*), my selection of the most recent and/ or relevant policy documents relating to urban green (*section 3.2.2*) and how the interview transcripts are generated (*section 3.2.3*).

3.2.1 Case studies

The selection of the Dutch cities Amersfoort, Haarlem and Utrecht as case studies for this research was based on a variety of reasons. The most dominant reason was the accessibility of participants and documents which limited the choices. The choice for the cities Amersfoort, Haarlem and Utrecht is secondly based on their location in the Randstad, the midwestern part of the Netherlands (*see figure 3.2.1A)*. The locations of these three cities are circled in yellow in figure 3.2.1A.



Figure 3.2.1A – Location of selected Dutch cities Amersfoort, Haarlem and Utrecht (Source: Google Maps, 2018, adjusted by author)

Based on my prior knowledge I knew that a lot of cities in the Randstad, including Amersfoort, Haarlem and Utrecht, have (had) to deal with urbanisation due to factors such as population growth (*see figure 3.2.1B)*. Figure 3.2.1B shows that for all three cities (circled in yellow) the population has grown with approximately 4% between 2006 and 2011 and again with approximately 4% between 2011 and 2016. My assumption is that land in urbanized areas becomes more scars and costly due to population growth, resulting in competitions for space between green and red which puts urban green under pressure. This is based on a report of 'the council for the environment and infrastructure' (RLG, 2005, p.53). I found it interesting to select cases studies in which most likely competitions for green and red take place.

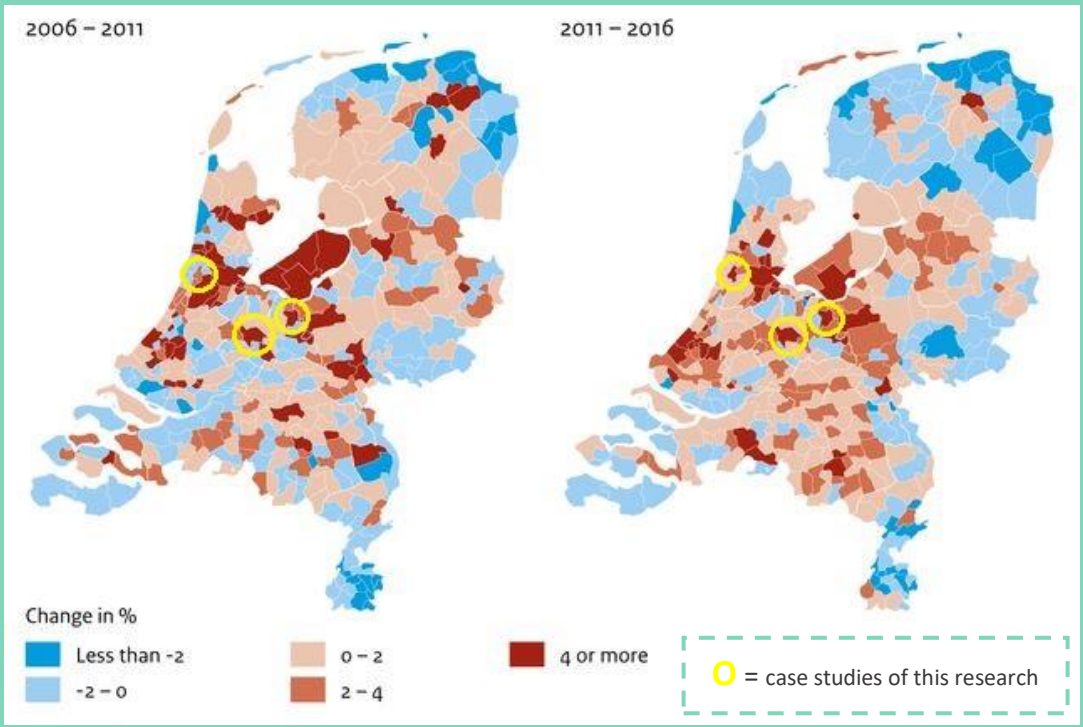


Figure 3.2.1B – Population growth per Dutch municipality 2006-2016
(Source: The Environmental Data Compendium (CBS, PBL, RIVM and WUR), 2016, adjusted by author)

Thirdly, I expected that these cities are extreme cases (Flyvbjerg, 2006, p.13) concerning the problem representations relating to urban green in their most recent and relevant municipal policies. This expectation is based on an assumption, when looking at the list of the greenest cities of Visschedijk (2014) which includes 31 Dutch cities in terms of amount and growth of m2 urban green per dwelling. On this list, Amersfoort has the highest position of all Randstad cities with a growth in green. Haarlem has the lowest position of all 31 cities and the Randstad with a decline in green. Utrecht is the city with highest growth in green of all 31 cities and the Randstad, but still has a low position (*see table 3.2.1)*. I am aware that this table also is a problem representation: 'a low amount of green per dwelling and/ or a decline in green per dwelling would not help to become the greenest city of the Netherlands'. The information in this table is seen as useful, because I assumed that a growth or decline in the share of green is influenced by different problem representations relating to urban green in municipal policy.

Table 3.2.1 - Position greenest city of the Netherlands for Amersfoort, Utrecht and Haarlem (Source: Visschedijk, 2014; adjusted by author)

Municipality	Position greenest city	m² green per dwelling (2014)	m² green per dwelling (2009)	Difference between 2009 and 2014 in %
Amersfoort	4	109.4	88.3	23.9 = increase
Haarlem	31	43.6	48.1	-9.4 = decrease
Utrecht	29	53.2	42.8	24.3 = increase

3.2.2 Most recent and/ or relevant policy documents

The selection of the most recent and/ or relevant policy documents is mainly based on snowballing. I started by searching for the most recent structure visions and green visions on the internet. These two type of policy documents seemed to be the most likely municipal documents in which problems relating to urban green would be addressed. I chose to include structure visions, because these are important integrated policy documents in spatial planning (Spit et al., 2012). I assumed that the structure visions would be used as input for the upcoming Environmental Vision, because the idea of the new Environment & Planning Act is to aim towards a more integrated approach (Rijksoverheid, 2017). While searching for the structure visions and green visions, it appeared that not all municipalities name their policies in the same way. Sometimes the word 'structure vision' or 'vision' was not mentioned in the title and policy documents were named as 'plans' or in other words. After I found potential e-mail addresses, I asked municipal officials via e-mail: 'Which most recent and/or relevant policies relating to urban green (and blue) does the municipality currently work with?'. Next to visions or plans focussing on green, structure visions, the contacted municipal officials also referred me to the online preparatory parts of the environmental vision, separate plans about water, ecology and/ or public space. I asked the contacted municipal officials via e-mail and again during the interviews if a policy document was established or when it was expected to be established (*see Additional information on selected policies in Appendix A)*. In the end, in terms of the most recent structure visions, the 'Structuurvisie'(2013) of Amersfoort, the 'Structuurplan'(2005) of Haarlem and the 'Ruimtelijke Strategie'(2016) of Utrecht were selected. In terms of most recent and relevant vision on 'urban green', the 'Groenvisie'(2016) of Amersfoort, the 'Structuurvisie Openbare Ruimte'(2017) of Haarlem and the 'Actualisatie Groenstructuurplan'(2017) of Utrecht are identified. Only Utrecht had already text parts about green, trees, water and public space online as preparatory for the Environmental Vision (2017). Other policies which are selected as important for Amersfoort are: the most relevant policy for urban green before the Green Vision, but still guiding 'Beleidsvisie Groenblauwe structuur' (2004) and the newest elaboration plan of the Green Vision: 'Bomenleidraad' (2017). For Utrecht, I selected the policy 'Plan Gemeentelijke Watertaken' (2015) as a another relevant policy relating to urban green. For Haarlem, I selected the following other relevant policies: the rejected policy 'Groenstructuurplan' (2009) and 'Ecologisch Beleid' (2013). During the interviews it appeared Haarlem takes part in a program 'TEEB-stad' of the national government together with other municipalities and organisations and because the earlier selected policies did not explain the program enough, I decided also to select information about the 'TEEB-stad' program of the website of the Ministry of Public Health, Wellbeing and Sports (RIVM & Ministerie van Volksgezondheid, welzijn en sport [Ministerie van VWS], 2018). The municipal official of Haarlem who takes part in the TEEB-stad programme advised me to look on the internet (*see interview transcript I2, p.6, which can be requested from the author*). The English translations of the presented policies above are shown in table 3.3A (*see table 3.3A. Analysed Material: policy documents and interview transcripts in section 3.3).* Due to my time limitations I did not select all policy documents which were proposed as potentially relevant policy documents relating to urban green by the contacted municipal officials.

3.2.3 Interview transcripts

To get in contact with municipal officials who have knowledge about the most recent and relevant policies relating to urban green, the names and e-mail addresses which were found in the particular policy are used as a start. Getting e-mail reactions from the relevant municipal officials worked best when I personally met an intermediary. I went to the meeting centre 'het Groene Huis', collected folders and asked around to track down e-mail addresses of potential interviewees for Amersfoort. One of four interviewees of Amersfoort was not a municipal official, but a policy maker because this person was hired by the municipality as final editor of the 'Groenvisie'(2016). After a workshop 'biodiversity in the city' on a big event in the Werkspoor Cathedral in Utrecht, I got in contact with a municipal official of Haarlem who brought me via e-mail in contact with two relevant municipal officials I interviewed. Thanks to a general e-mail address of the environmental department of the municipality of Utrecht I got in contact with a municipal official. She brought me via e-mail in contact with one relevant municipal

official I interviewed. This interviewee advised me to interview another municipal official and brought me in contact with this relevant municipal official for an interview. In general, snowballing is used to get in contact with relevant municipal officials. Due to time limitations of my research, experienced difficulties to arrange an interview with municipal officials and cancellations of interviews I have not been able to interview all municipal officials which I identified or were proposed by their colleges as 'relevant' in relation to the topic of 'urban green in policy'. The people I interviewed have been involved in the process before the writing of the selected policies, the writing itself of the selected policies and/ or resulting projects of the selected policies.

During the interviews the conversations are recorded. The recording are translated into interview transcripts in which every word, 'uhm' and silence (…) is transcribed, because it can help to understand peoples sentences or meanings (Silverman, 2014, p.199). The table below (*see table 3.2.3)* presents the used symbols and meaning of these symbols in the transcripts (*see interview transcripts, which can be requested from author)* and selected quotes in the result chapter *(see chapter 5 Results)*.

Table 3.2.3 – Meaning of symbols in transcripts and quotes (Source: Hay, 2010, p.122, adjusted by author)

Symbol:	Meaning:
Words in italic	Background information of the interview
//	Speaker interrupted by event, for example: // phone rings //
…	A self-initiated pause by a speaker
()	Sections of speech, or a word, that cannot be deciphered
(…)	Material that has been edited out, because of irrelevance and/or right to anonymity

I also made notes after the interviews and some notes during the interviews (*these notes can be requested from author)* to summarize important elements of the interview. However, for the result chapter I only used the interview data which is recorded and later transcribed in other words 'the interview transcripts' as a source of reference.

The data generation ended with the raw data of the selected policies and interview transcripts. According to Silverman (2014, p.312):

"Stop when we learn nothing new by adding additional data" (Silverman, 2014, p.312)

I stopped the data generation of adding new raw data sources with 13 selected policies and 8 interview transcripts (*see table 3.3A Analysed Material in next section and table 3.3B Overview of how research questions, methods, data and data sources are related).*

3.3 Data analysis

In the data analysis, patterns are explored in the raw data of the selected policy documents and interview transcripts in order to write the result chapter of analysed/ interpreted data in the form of meaningful statements, diagrams and schemes (Silverman, 2014, p.276; Jørgensen & Phillips, 2002, p.21). Table 3.3A demonstrates all (online) policies and interview transcripts I analysed for this research. The used abbreviations, the English translations of the Dutch titles of the policies and how the interview transcripts are numerated is explained in this overview (*see table 3.3A Analysed Material: policy documents and interview transcripts).*

In interpretative research, the search for patterns is not about looking for a singular truth, but searching for multiple truths and potential conflicting truths among those documents and participants studied (Schwartz-Shea & Yanow, 2012, p.82). The assumption among interpretative researchers is that the relevant participants under study have different positionalities (in terms of prior knowledge,

demographic characteristics, location, power and more) which influences their view on the topic under study (Schwartz-Shea & Yanow, 2012, p.85). The goal of the data analysis is to understand how the selected documents and selected participants interpret the topic studied (Boeije et al., 2009, p.73; Schwartz-Shea & Yanow, 2012, p.80). In order to get to this point, eventually all relevant materials needs to coded (Silverman, 2014, p.116) and the meaning of themes and descriptions are interpreted. The identified relationships between main descriptions can be visualised in schemes and diagrams (Silverman, 2014, pp.135-136; Silverman, 2015, p.146).

Table 3.3A - Analysed Material: policy documents and interview transcripts
(Source: by author & see appendix A – Additional information on selected policies)

Analysed Material				
Municipality	Most recent and/ or relevant policy documents			Most relevant and accessible municipal officials and/ or policy makers
	In Dutch	Abbreviation	In English	
Amersfoort	- Beleidsvisie Groenblauwe structuur (2004) - Structuurvisie (2013) - Groenvisie (2016) - Bomenleidraad (2017)	- GBS - SV - GV - BL	- Policy Vision Green Blue Structure - Structure Vision - Green Vision - Tree Guide	4 interview transcripts: I5 t/m I8
Haarlem	- Structuurplan (2005) - Groenstructuurplan (2009) - Ecologisch Beleid (2013) - Structuurvisie Openbare Ruimte (2017) - RIVM & Ministerie van Volksgezondheid, welzijn & sport (2018). *Meer over TEEB-stad*. [online]	- SP - GSP - EB - SOR	- Structure Plan - Green Structure Plan - Ecological Policy Plan - Structure Vision Public Space	2 interview transcripts: I1 & I2
Utrecht	- Plan Gemeentelijke Watertaken (2015) - Ruimtelijke Strategie (2016) - Actualisatie Groenstructuurplan (2017) - Omgevingsvisie (2017), Koers & thema's: groen, bomen, water, openbare ruimte. [online]	- PGW - RS - AG - OV	- Plan Municipal Water Tasks - Spatial Strategy - Updated Green Structure Plan - Environmental Vision, with the course & themes: green, trees, water, public space	2 interview transcripts I3 & I4

The quickscan with examples of problem representations relating to urban green *(see table 4.0 in chapter 4)* is used as an exercise to recognise and highlight different implied problem representations of policy concepts relating to urban green. I started with this quick scan before the start of the interviews and the analysis of the policies. During the data analysis of the policies and interview transcripts, I added more policy concepts relating to urban green and implied problem representations based on literature to table 4.0. I did this in order to have some background knowledge and create better understanding of the policy concepts I found in the selected policies and interview transcripts. In the result chapter I reflect back on the policy concepts presented in table 4.0 (*see chapter 5 Results).*

In relation to my study domain 'urban green in policy', the quickscan about policy concepts relating to urban green (*see chapter 4)* provided me a background of different approaches towards urban green and the insight that different problem representations could be implied by the same policy concept. On purpose, my theoretical framework, and especially my conceptual model, has therefore no discussion or distinctive and exclusive definition of 'urban green'. I wanted to discover the viewpoints on urban green adopted by the three municipalities Amersfoort, Haarlem and Utrecht. I therefore used a quite open definition of urban green, but concrete enough to acquire relevant information during the interviews. At the start of interviews I mentioned seeing urban green as including all different types of plants and water (*see Interview questions in Appendix B*), which would have still influenced the interviewees. In the introduction, this 'open' definition of urban green is also mentioned (*see section 1.1.1)*. When analysing the selected policy documents, my 'open' definition of urban green and my sensitizing concepts in my coding scheme guided my data analysis and led to reading all pages of the policy document to make sure I did not miss synonyms (Silverman, 2014, p.48).

Sensitizing concepts guided my data analysis instead of using concepts with a definitive description and operationalization (Boeije et al., 2009, p.276). I could not only search with 'Ctrl f + a word', because the data analysis is based on my own interpretation of words. My own made coding scheme consists of three tables: one for every sub-question. In the three tables, the sensitizing concepts of the conceptual model are included (*see figure 2.3 and see Coding Scheme in Appendix C*). These sensitizing concepts guided me to the relevant characteristics and at the same time helped me to stay open to the perspectives of the participants and documents studied (Boeije et al., 2009, p.256). In this way I led the problem representations in relation to urban green (and their origins and effects) derive from the field.

In preparation of the interviews, the advised policy documents by the contacted municipal officials were roughly read and roughly analysed with my coding scheme. The idea was that a rough background knowledge about the policy documents would help me to better understand and respond to answers of the interviewees. Moreover, the analysis of the interview transcripts gave me new insights which led to focussing on additional policy documents or other text parts of the selected policy documents. The interviews also gave knowledge input to slightly adjust interview questions, because an interview question was unclearly formulated. New insights which lead to adjustments of interview questions are noted in the reflective journal (*see notes of reflective journal, which can be requested from author).*

During the data analysis, I marked the relevant text parts of the policy text or interview transcript (*see coded documents and interview transcripts, which can be requested from author)*, included these as quotes or in a summarised version in the coding schemes and mentioned the page number of the policy or interview transcript from which the text part derives *(see coding frames of selected documents and coding frames of interview transcripts, which can be requested from author)*. I identified text parts of the policies as one of the sensitizing concepts, such as a 'represented solution'. I gave the different sensitizing concepts different colours in my coding scheme (*see Coding Scheme in Appendix C).* The colours of the sensitizing concepts in my coding scheme correspond with the colours I used to mark words in the interview transcripts and policies. If policies were saved in pdf, it was harder to use exactly the same colours. In that case I therefore only marked text parts with yellow, but the source could be traced back because I mentioned the page number of the selected text part in the coding frame. As an example: text parts of interview transcripts or policies I identified as a 'represented solution' are marked with green. These text parts are copied as quotes or in a summarised version in the coding scheme under the corresponding sensitizing concept and by mentioning the page number of the selected text part (*see*

coding frames of interview transcripts and coding frames of documents, which can be requested from author).

After I coded a policy or interview transcript with the help of my coding scheme, I attempted to decrease the amount of 'represented solutions', 'justifications', etcetera I identified and only copy the main 'represented solutions', 'justifications, etcetera into a coding scheme per municipality. This coding scheme per municipality is in a way a summary; I used the same coding scheme as framework for my summary. During this data analysis, some text parts which were first identified as belonging to one sensitizing concepts are switched to another sensitizing concept. As a third step of the data analysis, I prepared a presentation for my supervisor and another student, which reduced the amount of text parts belonging to a sensitizing concepts even further and showed relations between text parts in the form of diagrams. The fourth step was translating the coding schemes of the interview transcripts and policy documents, the summaries per municipality, my diagrams (of my presentations), my notes and table 4.0 (of policy concepts relating to urban green and implied problem representations) altogether into the meaningful statements and schemes presented in the results chapter. In this phase, some parts of policies or interview transcripts are read and coded again. Data-analysis in qualitative research is cyclic repetitive (Boeije et al., 2009, p.259), an iterative process (Silverman, 2015, p.141) and more like a tangled ball of yarn (Schwartz-Shea & Yanow, 2012, p.32). Coding qualitative data is an iterative process in which new insights are welcome (Silverman, 2015, p.144) and relevant information is expected to emerge from the field (Schwartz-Shea & Yanow, 2012, p.38). Therefore, I analysed one data source per one data source and I analysed a data source extra times when new insights appeared (Silverman, 2015, p.141).

Lastly, how the research questions, methods, data and data sources are related is schematically shown in table 3.3B below (*see table 3.3B).*

Table 3.3B - Overview of how research questions, methods, data and data sources are related (Source: by author)

Sub-question	Method	Data	Data Source	Comments
1 t/m 3	Document-analysis	The sensitizing concepts of the conceptual model and the research questions, represented in the coding scheme directed me towards the relevant sections in the policies I selected.	Most recent and/ or relevant policies relating to urban green according to contacted municipal officials of selected municipalities and my own judgement.	I accessed these policies via: websites, contacted municipal officials and snowballing.
1 t/m 3	Interviews	The sensitizing concepts of the conceptual model and the research questions, represented in the coding scheme, directed me towards the relevant sections in the interview transcripts.	Interview transcripts of interviewed policy makers/ municipal officials of selected municipalities.	I came in contact with these interviewees via: personal contact with an intermediate, e-mail and snowballing. I recorded the interviews and transcribed them.

3.4 Ethical considerations, trustworthiness strategies and limitations

First, the ethical considerations which I have taken into account and its limitations are discussed (*section 3.4.1*). Secondly, the trustworthiness strategies and limitations of this research are discussed per strategy: intertextuality (*section* 3.4.2), thick description (*section 3.4.3*), positioning of the researcher (*section 3.4.4*), reflective journal (*section 3.4.5*) and time planning *(section 3.4.6)*

3.4.1 Ethical considerations

In terms of ethical considerations in relation to the policies I selected and analysed, I chose these policies which are freely available on the internet. In the appendix, I added information about the author(s), year, title, amount of pages, date of establishment of the policy and the website I found the policy (*see Appendix A - Additional information on selected policies)*. I first looked for the proposed policy documents by the contacted municipal officials at the official websites of the municipality by typing in (parts of) the title and/ or the year. If I could not find the policies there, I chose other websites. In order to be transparent about to what extent the policy document was 'recent', the year of the establishment or concept version of the selected policies is clearly mentioned in table 3.3A, the result chapter, the conclusion and in appendix A. The ethical considerations for arranging and conducting the interviews were described in an interview protocol (*see figure 3.4.1 and see introduction of interview questions in Appendix B*).

Arranging interviews: An e-mail is send to a contact person or policy maker of the relevant municipality. In this e-mail, shortly the purpose of this research for my master thesis is explained. Politely is asked if I could get in contact with policymakers of the most recent and/ or relevant policies relating to urban green (and blue) for an interview in November or December. This e-mail ended by politely thanking them in advance, mentioning my name and being a master student of Landscape Architecture & Planning of Wageningen University. When arranging interviews with the relevant policy makers/ municipal officials I asked which policy documents of the municipality relating to urban green and blue are the most recent and/ or relevant ones. It is also asked when these documents are (planned to be) established. During the interviews it is asked again which policy documents are the most recent and/ or relevant relating to urban green and to what extent it matters if these are established or not.

Setting: I interviewed the selected policymakers and/ or municipal officials separately at the city hall or in a chosen room/ building by the interviewee. I brought a small present as a thank you for the arranged interview. The interviews are held in Dutch, because it is assumed that this will make the interviewee more comfortable.

Noted for every interview: Location, date and time of the interview (which is later added to the interview transcripts). I added to the interview transcripts: description of involvement of interviewee in urban green policy and my name as interviewer. The interview transcripts are for privacy reasons not included in this MSc Thesis and can be requested by the author.

Figure 3.4.1 – Ethical considerations of interview protocol (Source: Interview Protocol, adjusted by author to among others the past tense)

In an earlier version of my interview protocol I wanted to note for every interview: 'date, place, name interviewee, name interviewer'. I however decided not to provide the names of the interviewed policy makers/ municipal officials, because some of them mentioned before the interview they did not want their names to be mentioned in my research. I asked if 'beleidsmedewerker gemeente…' (translated: municipal official/ policy maker of the municipality of …) or something similar was okay and all interviewees agreed (*see introduction of interview questions in Appendix B)*. In order to show the relevance of interviewing these municipal officials/ policy makers for my research, I added a shortened version of the information the interviewees gave to my first question 'to what extent are you familiar and involved with municipal policy relating to urban green?' as description of the interviewee on the first page of every interview transcript. This is how I interpreted 'description of involvement of interviewee in urban green policy' (*see figure 3.4.1).* This description of the interviewee is the shortened

version of what he/ she shared on the recording, which is mentioned on the first page of every interview transcript. Before I started to record the interview, I asked if it was okay that I recorded their answers to my interview questions and that I was going to transcribe this recorded conversation (*see introduction of interview questions in Appendix B)* and all interviewees agreed. To ensure the anonymity of the interviewees, names which were mentioned in the recordings are excluded from the interview transcripts with (…). For privacy reasons, the interview transcripts and the notes about the date, time, place and the description of the interviewees involvement in relation to urban green policy which are added to the interview transcripts, are not provided in this MSc thesis document, but these can be requested from the author. In case of requests, I will asked the interviewee in question for permission. I numbered the interview transcripts with 'I1', 'I2', etcetera (*see table 3.3A Analysed Material)* for references in this research.

3.4.2 Intertextuality

Instead of using the word 'triangulation' which belongs to positivist thinking, intertextuality is a trustworthiness strategy for interpretative research of using multiple sources (Schwartz-Shea & Yanow, 2012, p.88). In terms of intertextuality in this research, the multiple sources are (online) policy documents and interview transcripts from participants (*see table 3.3B Overview of how research questions, methods, data and data sources are related)*. Moreover, three case studies are selected which are deviant cases based on theory (Silverman, 2014, p.91; Schwartz-Shea & Yanow, 2012, p.87)(*see 3.2.1 Case studies).* I would like to emphasize that the results of this research account for the selected municipalities and are based on data sources which are selected and interpreted by me as a researcher and therefore generalization could not be made. The trustworthiness strategy of intertextuality means that the researcher tries to understand the terms used in the documents or interviews by the participants by comparing how terms are used in other related documents or by other participants. The researcher seeks if one document or participant is challenging or using a phrase, key concept or quotes found in other documents or interview transcripts (Schwartz-Shea & Yanow, 2012, p.86).

3.4.3 Thick description

In interpretative research researchers strive to be as transparent as possible, because a different researcher who would select the same sources will co-generate different data due to the different demographic characteristics and prior knowledge of that researcher (Schwartz-Shea & Yanow, 2012, p.81). In order to strive for transparency of the research process, how the data is generated and analysed is described in detail in sections 3.2 Data generation and 3.3 Data analysis (Silverman, 2014, p.84)(*coded documents, coding frames of documents, interview transcripts, coding frames of interview transcripts and notes can also be requested from author*). The research purpose of interpretative research is understanding meaning making in particular sites (Boeije, 2009, p.73; Schwartz-Shea & Yanow, 2012, p.70). Even when nothing is said by the participant, the researcher also tried to for example note the pauses and background information of the interview in the interview transcripts (*see table 3.2.3 – Meaning of symbols in transcripts and quotes*), because these are also potential data to understand meaning making (Schwartz-Shea & Yanow, 2012, p.81). Making reflective notes, which are thick-description, were also important for sense-making and my later knowledge claims (Schwartz-Shea & Yanow, 2012, p.89). Another form of thick description is the use of quotes and references to even page numbers of the interview transcripts and policy documents in the results chapter.

3.4.4 Positioning of the researcher

I position myself as an interpretive researcher. This implies that my particular model for looking at reality is part of Social constructionism (Silverman, 2014, p.53). In this worldview reality is considered as constructed and also my knowledge is constructed (Jørgensen & Phillips, 2002, p.5)(*see 2.1.1 Social constructionism*). In interpretative research, the researcher is seen as the instrument of inquiry and sense-making, because the researcher and what is being studied are intertwined (Schwartz-Shea & Yanow, 2012, pp.76-79). In terms of epistemology, how I look at what is knowledge (Silverman, 2014, p.53), I am influenced by how I received information from education, the media, my family, friends and other people I met, observing several living environments and more sources. I have learned during my studies

that every study field looks different at problems and also connects different meanings to the same words or concepts. Relating to the topic of urban green I have background knowledge based on what I have read and heard, but I am also aware that my knowledge is limited compared to all information which is available in literature, the media and among experts. My background knowledge on for example jargon and concepts of urban green could open or close topics in conversations with the interviewees (Schwartz-Shea & Yanow, 2012, pp.67-68). Relating to the focus on problem representations in policies, I had little knowledge how these problem representations come about and what the effects are at the start of this research. I have never worked at a municipality or been some kind of policymaker. I however have been involved in participatory meetings as a representative of the resident council of my student building and/ or Utrecht Science Park student council in Utrecht, but these participatory meetings were not concerning the policies I selected in this research. Relating to ontology, in other words how I look at the elements of reality (Silverman, 2014, p.53), I had never been in the position to experience how problem representations in policies are established before this research. As a young woman born in 1992, who has lived in the Netherlands all her life, my familiarity with the Dutch culture and Dutch language was beneficial for my listening skills and improvisational skills in order to adapt to the setting of the interview to effectively acquire local knowledge of the interviewee (Schwartz-Shea & Yanow, 2012, pp.73-76). My skills to 'access' meanings in the selected documents, during the interviews and later in the interview transcripts and finally draw conclusions are improved over time due to new insights of how to summarize and connect the data (Schwartz-Shea & Yanow, 2012, pp. 68-76).

3.4.5 Reflective journal

The final trustworthiness strategy is keeping a reflective journal to contribute to transparency of the research, to stay critical and reflective as a researcher (Schwartz-Shea & Yanow, 2012, p.81). Reflective notes (*see notes of reflective journal, which can be requested from author)* are made about for example what, how and why during the research process changes are made to the research design. Notes are also made about new insights of the researcher and the researcher's first thoughts of the documents and interviews (*see my notes in the interview transcripts, coded documents, coding frames of documents, coding frames of interview transcripts, which can be requested by author)*(Schwartz-Shea & Yanow, 2012, p.89). My summaries per municipality and intermediate presentations are also considered as notes which represent my thoughts and reflections (*these summaries per municipality and these presentations can also be requested by author)*. In my notes, I also wanted to reflect on my role and what I take for granted. Taking a step back and reflecting on my worldview, my (lack of) background knowledge and personal characteristics as a researcher and what impact it has on the conversations with the participants and what I see as relevant data, gave me new insights (Jørgensen & Phillips, 2002, p.21; Schwartz-Shea & Yanow, 2012, p.81). The reflective notes are seen as the basis for my sense making as a researcher, which later lead to the knowledge claims (Schwartz-Shea & Yanow, 2012, p.89). In the discussion of this research I reflect back on how my role as a researcher could have influenced this research (*see Chapter 6 Discussion).*

3.4.6 Time planning

Between September 2017 and April 2018 I worked on this research as part of my Master Thesis of 'Landscape Architecture & Planning'. This timespan indicates also the limitations of the possible scope of this research.

4. Quickscan – Policy concepts relating to urban green and the implied problem representations

The focus of this critical discourse analysis is on problem representations in relation to urban green in policies, the origins of these problem representations and the effects of these problem representations. These three elements together derive from the WPR-approach from Bacchi (2012) and could be linked to the three elements of text, systems of thought and action of a discourse (Sharp & Richardson, 2001, p.193) (*see 2.3 Conceptual model and research questions)*. According to Jørgensen & Phillips (2002, pp.140-141), it is essential in critical discourse analysis to have some sort of background of the domain under study to reflect on in order to interpret how different discourses are mixed and/ or changed in particular texts (*see 2.1.3 Critical discourse analysis)*. Since problem representations in policy in relation to urban green are central in this research, I wanted to practice to identify problem representations in relation to urban green. Concepts relating to urban green are in this case interesting, because these concepts could also be used in policy.

This section attempts to give a quickscan of identified problem representations of concepts relating to urban green I found in national policies, reports, books, scientific research and other sources during the writing of this research. The starting point for this quickscan are policy concepts, because policy concepts may provide new understandings about complex topics or may improve decision making at various levels and sectors. At the same time, these concepts could distort or guide a line of thinking in scientific, public and policy debate to a particular direction (Lyytimäki & Petersen, 2014, p.50). Concepts could highlight particular aspects and in turn other aspects could remain less recognized (Lyytimäki & Petersen, 2014, p.52). In this initial search, I formulated problem representations which in my view could be connected to the policy concept, based on information I found in policies, reports, scientific research and other sources about that particular concept (*see table 4.0).* This quickscan has become a quite long table and needs to be read on its own in order to provide structure and an overview, but this overview is far from perfect and complete. Table 4.0 is used as an exercise to recognise and highlight problem representations relating to urban green.

The many concepts shown in table 4.0 are classified into several themes. The concepts are about the abstract themes: types of green, connected green structure, green standards, ES and time(scale) and ES. The following themes are more subjective: worldview on nature, nature as part of represented solution, Economics & ES, Sustainability & ES and people's relationship with green. The text about problem representations in table 4.0 shows that also represented solutions and represented causes could be hidden in the same text, which emphasizes the difficulty of identifying the problem representations (the problem representations are highlighted with a mint colour). I pick the text provided under 'problem representations' of policy concept Green Infrastructure [GI] as an example to show different problem representations and hidden represented solutions and represented causes. The cause represented to be I identified is ''grey' infrastructure is often expensive to build and maintain' (European Commission. [EC], 2018A). The represented solution is 'Green Infrastructure (a network of (semi-)natural areas, strategically planned, designed and managed to deliver ecosystem services (…) and provides environmental, economic and social benefits') as a cost-effective nature-based solution, whenever it offers a better alternative, or is complementary, to standard grey choices' (EC, 2018A). The represented problem I identified is: What could be a cost-effective nature-based solution and is a better alternative or is complementary, to standard grey choices? (EC, 2018A). Lennon (2014, p.16) sees the word 'infrastructure' in Green Infrastructure as the represented cause and problematizes that it may portray 'green as a 'techno-institutional fix''. With this example, I showed that two different problem representations could be implied from the same policy concept. This exercise resulted in and acknowledged the idea of separating the 'solution', 'problem' and 'cause' presented in a policy text to identify the main problem representations in relation to urban green better. This is done with the coding frames made for this research (*see Coding Scheme in Appendix C).*

Table 4.0 – Policy concepts relating to urban green and the implied problem representations (Sources: see table)

Theme	Policy concept relating to urban green	Problem representations
Types of green	*Green Urban Areas [GUA]*	-Little or no green urban areas in cities (Eurostat, 2018). -Types of green in urban areas could not be included as 'green'(European Commission [EC], 2018B). The concept of Green Urban Areas [GUA] includes according to the European Commission all types of green and blue spaces, such as city parks, rooftop gardens, tree-lined streets, lakes, rivers, wetlands and coastlines (EC, 2018B).
Connected green structures	*Green urban structures*	In the 19th century green urban structures were introduced, because city people missed the opportunity to learn and work in allotment gardens and farms, recreate in gardens and playgrounds, which was beneficial for public health and wellbeing (Pötz & Bleuzé, 2012, p.29).
	Connected green areas	Two forms of connected green areas were introduced in the 20th century: 'green belts' and 'green radials'. Due to urbanization and increased traffic between other urban areas, the idea of green belts turned into green radials. Fresh air, recreation and agriculture were reasons to develop these green radials of woodlands, fruit farms, meadows and river valleys. Crop farms did not fit in this romantic ideal in the 20th century. In the 20th century, the intention was to connect the green radials and form an infrastructure to make recreation accessible for townspeople (Pötz & Bleuzé, 2012, pp.26-27).
Nature as part of represented solution	*Green Infrastructure [GI]*	-The word 'infrastructure' may portrays green as a 'techno-institutional fix' (Lennon, 2014, p.16). -'Grey' infrastructure is often expensive to build and maintain. Green infrastructure [GI] is by the EU promoted as a cost-effective nature-based solution, whenever it offers a better alternative, or is complementary, to standard grey choices. In this case, GI needs to be protected, restored, created and enhanced in spatial planning and development. GI means a network of (semi-)natural areas, strategically planned, designed and managed to deliver ecosystem services. This network includes green (land) and blue (water) spaces and the Natura 2000 network and provides environmental, economic and social benefits (European Commission, 2018A).
	Urban Green Infrastructure [UGI]	-Green spaces in urban areas have unrealised potential, when the urban challenges of climate change adaptation, biodiversity conservation, promoting green economy and improving social cohesion are high. These four urban challenges are the drivers for investing in Urban Green Infrastructure [UGI]. UGI is an integrative, multifunctional and strategic spatial planning approach (Hansen et al., 2017, pp.3-7). UGI is promoted amongst others by the European project GREENSURGE (Hansen et al., 2017, pp.3-7; Mattijsen et al., 2017, p.3) as a planned network of green and blue spaces delivering ecosystem benefits to society. The European Commission (2018B) connects UGI to Green Infrastructure [GI] and Green Urban Areas [GUA].

	Nature Based Solutions [NBS]	-The following challenges humankind is facing are problematised, such as (1) unsustainable urbanization and related human health issues, (2) degradation and loss of natural capital and the ecosystem services it provides, (3) climate change and (4) natural disaster risks (European Commission [EC], 2018C). The EU promotes to turn these environmental, social and economic challenges into innovation opportunities with Nature Based Solution [NBS] (European Commission - Directorate-General for Research and Innovation [EC – DGRI], 2015, p.4; Faivre et al., 2017, p.509). The idea is to innovate with nature and the EU to become world leader in the growing market for NBS (EC, 2018C). NBS are solutions with are inspired by, supported by or copied from nature (EC-DGRI, 2015, p.4). It could result in multiple co-benefits and in this way can represent more efficient and cost-effective solutions than traditional approaches (EC-DGRI, 2015, p.4). - Humans are currently depleting natural capital, rather than enhancing it by using the resources and services of ecosystems in an 'engineered' way for a more resource efficient, competitive and greener economy and to help create new jobs and economic growth (EC, 2018C). -In 2014, the EC launched an expert group to help increase the use of NBS and bring nature back into cities (Faivre et al., 2017, p.509).
	Garden City	In the early 20th century Ebenezer Howard introduced the utopian Garden City concept in response to urbanization, which lacks focus on green areas which would help to make the city self-sufficient with agriculture, urban waste processing and water purification. In the Garden City model, a central city is connected with major roads to smaller satellite towns, but between these urban areas there is lots of space for green areas (Pötz & Bleuzé, 2012, p.29).
Green Standards	*Average distance to green per resident*	When statistics of the Dutch Central Bureau of Statistics (CBS) show that the average distance a Dutch resident of any municipality or neighbourhood has to green is too far, green is not seen as a type of service which is accessible for its residents (CBS, PBL, WUR, 2016).
	m² urban green per dwelling	-The insufficient amount of m² (urban) green per dwelling (Visschedijk, 2014). The Dutch national government proposed a target number of 75 m² per dwelling in Dutch spatial planning policy on national level: 'Nota Ruimte' (CBS, PBL, WUR, 2010; VROM, 2006).
Worldview on nature	*Instrumental value of nature* and *intrinsic value of nature*	-In the dominant way of thinking, the value of nature stays at instrumental value for humans and does not go beyond anthropocentrism to intrinsically valuing nature (Garvey, 2008, p.53; Van den Berg, 2012). -Most humans are currently in one of the instrumentally valuing nature stages: lowest stage is being in denial of environmental problems, the 2nd stage is believing that technology will fix all environmental problems and the 3rd stage is being a steward of the earth for future generations of humans (Van den Berg, 2012). -Humans have not yet arrived at the final stage of intrinsically valuing nature: 4th stage as partner not wasting nature, 5th stage as participant preserving nature and final stage: humans live in harmony with nature (Van den Berg, 2012).

ES	*Ecosystem services [ES]*	-At the beginning of the 21st century, research of the Millennium Ecosystem Assessment by the United Nations highlighted that a lot of world's ecosystems are influenced, degraded or overused by human activities and that in order to protect both human economies and natural biodiversity collaboration is needed (Miller & Spoolman, 2012, p.240). -The ES-concept used in the Millennium Ecosystem Assessment aims towards a integrative approach and classified ecosystem services into: supporting services, provisioning services, regulating services and cultural services. After that, many research tried to redefine, explain or add elements to come up with a standard set of ES (Hiemstra, 2015; Lyytimäki & Petersen, 2014, pp.53-54). The Dutch National government also aims towards a standard set of ecosystem services (of natural capital) (Planbureau van de leefomgeving [PBL], 2016). -The ES-concept does not directly say for whom these services are, but many explanations of the concept in policies have filled in that ES is only for human benefit. In the scientific field, explanations of ES are criticised that only describe a one relational dimension of ES (Buizer et al., 2016; Lyytimäki & Petersen, 2014, pp.50-53).
(Time)scale & ES	*Share of urban green* in relation to *ES*	Problematised is how to increase generation of ecosystem services. According to Lyytimäki & Petersen (2014, p.57) there are different assumptions and so problem representations about this relation: -An increase of green area is needed to increase generation of ecosystem services. -A certain size of green area is needed as a threshold to make the generation of ecosystem services possible. -The generation of ES accelerates with an increase in the share of green area -The generation of ES slows down with an increase in the share of green area. -The specific context determines the relationship between the share of green in the city and the generation of ES.
	Consumption of ES	It is unknown how citizens of an particular area value and consume a particular green space (Lyytimäki & Petersen, 2014, p.59).
	Urban ecosystem services	-Generally speaking, most ecosystem services originate from rural or natural areas, but ecosystem services are mostly consumed in urban areas and affected by urban activities (Lyytimäki & Petersen, 2014, p.55). -Unrecognised importance of urban green (and blue) areas and its ecosystem services for urban planning (Lyytimäki & Petersen, 2014, p.56). -Continuing urbanization affects sustainable development (Lyytimäki & Petersen, 2014, p.52)
	Indoor ecosystems	The unknown opportunities for creating 'indoor ecosystems' and the potential ecosystem services generated and consumed (Lyytimäki & Petersen, 2014, p.58).
	Nocturnal nature	The unknown functioning of ecosystem services during the night and its impact on ecosystems in urban areas (Lyytimäki & Petersen, 2014, p.58).

Economics & ES	*ES* in combination with *natural capital*	Miller & Spoolman (2012, p.9) describe natural capital as the combination of natural resources and natural services which sustain human life and other life on earth, and support human economies. Natural sources are sources such as water and soil. Natural services are the processes in nature such as nutrient recycling, water purification and food production. The use of the word 'capital' in 'natural capital' refers to economic terms of money or other forms of wealth that support a person, population or economy, according to Miller & Spoolman (2012, p.9). It could be concluded that in order to explain the value of nature, the word capital is used. The concept of natural capital and ecosystem services is also used in research of the Dutch Institute of Public Health and Environment (RIVM, 2017) and the Dutch Planning Agency of the Living Environment (PBL, 2016).
	The economics of ecosystems and biodiversity[TEEB]	Value is understood in monetary terms and the monetary value of urban nature is unknown (Garvey, 2008, p.101; Lyytimäki & Petersen, 2014, pp.53-54; Miller & Spoolman, 2012, p.216).
Sustainability & ES	*ES* in combination with *3P's of sustainability'*	-The focus of urban green should be on sustainable development, which is focussing on a balance by weighing economic (Profit), social (People) and ecological (Planet) interests. The purpose of urban green should be a mixture of combinations which include use, experience and protection of nature. The focus has not yet been moved from rigid zoning plans of solely 'green', 'blue' or 'red' to mixture of functions and combinations for an area (Kistenkas et al., 2017, pp.101-139). -Integrating the economic, social and ecological dimension of the relation between ecosystem services and human activities and finding win-win situations is promoted by the concept of sustainability, but remains a difficult task. Aiming for sustainability could connect and could address different problems such as climate change, protection of biodiversity and maintenance of natural resources (Lyytimäki & Petersen, 2014, pp.50-51).
People 's relationship with green	*Mediated nature*	-Media representations of nature could be negative representations of urban green by the media (Lyytimäki & Petersen, 2014, p.59). -Nature is not directedly experienced by humans via mediated nature, leading to humans disconnecting with the natural world (Lyytimäki & Petersen, 2014, p.59).
	Biocultural diversity [BCD]	Not everyone has the same knowledge, nor the same relationship with urban green (Buizer et al., 2016, p.4).
	Ecosystem disservices	Functions or services of ecosystems that are negative to the well-being of humans (Lyytimäki & Petersen, 2014, p.57)
	Ecological Gentrification	-Environmental gentrification could be described as the displacement of low income residents due to high-end redevelopment ostensibly promoted as urban sustainability efforts (Checker, 2011, p.212). Environmental gentrification results in displacement and/ or financial burden for the most vulnerable urban residents (Pearsall, 2012, p.1013). -Equity is subordinated to profit-minded development in the case of environmental gentrification (Checker, 2011, p.210). The social justice dimension of sustainability needs to be better integrated in urban sustainability plans in order to prevent environmental gentrification (Pearsall, 2012, pp.1013-1024).

5. Results

The results of this research are presented in an attempt to answer the following research questions:

Main Question: *How are problems in relation to urban green represented in the most recent and/ or relevant municipal policies of the Dutch cities Amersfoort, Haarlem & Utrecht and what are the origins and effects of these problem representations?*

Sub-questions:

1. *What is the problem represented to be in relation to urban green in the most recent and/ or relevant municipal policies of the Dutch cities Amersfoort, Haarlem and Utrecht?* (which relates to the element of 'problem representations in policy' of the conceptual model (*see figure 5.0A*))
2. *How have these problem representations in relation to urban green come about in these policies? (what are their origins)* (which relates to the element of 'origins of problem representations' of the conceptual model)
3. *What are the effects for urban green of these problem representations in these policies?* (which relates to the element of 'effects of problem representations' of the conceptual model)

The answers to the research questions are based on the analysed material of policies and interview transcripts shown schematically in *table 3.3A (see section 3.3 Data Analysis)*. Table 3.3A also presents an overview of the used abbreviations for the selected policies and interviewees. For a visual image, figure 5.0B shows the (online) frontpages of the analysed policies per municipality (*see figure 5.0B).* First, the three sub-questions are answered for every municipality; Amersfoort (*section 5.1*), Haarlem (*section 5.1)* and Utrecht (*section 5.3)* in succession. The main question is in a way a numeration of these three sub-questions. These three sub-questions are connected to each other (see *figure 5.0A)* and therefore I have chosen to present the results first per municipality. Subsequently, the information of these three municipalities is used together with a reflection on my quickscan of policy concepts relating to urban green and the implied problem representations (*see chapter 4)* to answer the three sub-questions (*see section 5.4-5.6)* and main question (*see section 5.7)* of this research.

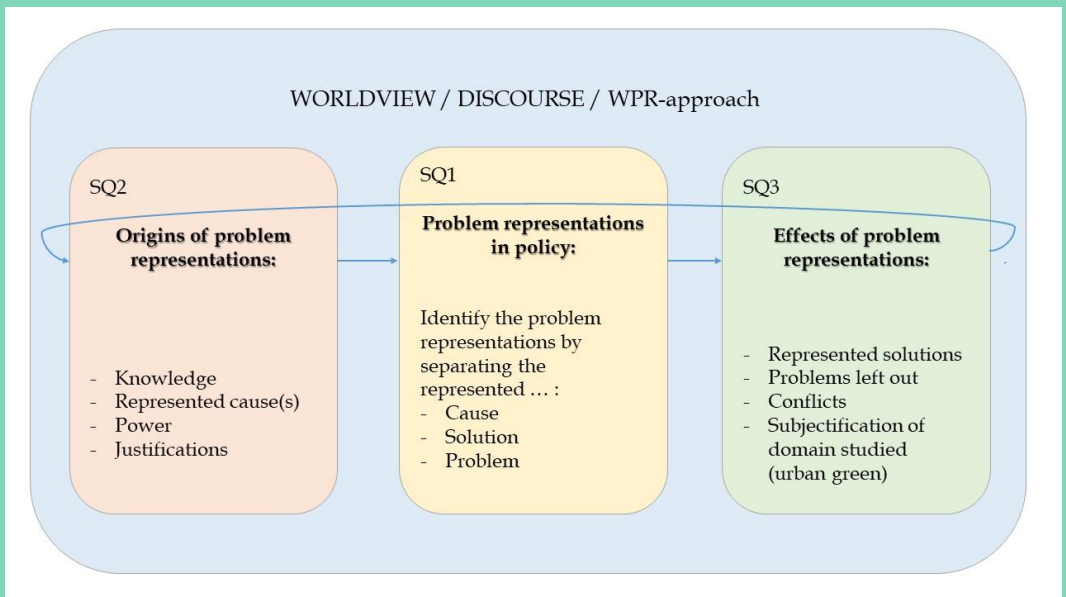


Figure 5.0A - Conceptual model (Source: by author & is the same as earlier presented figure 2.3)

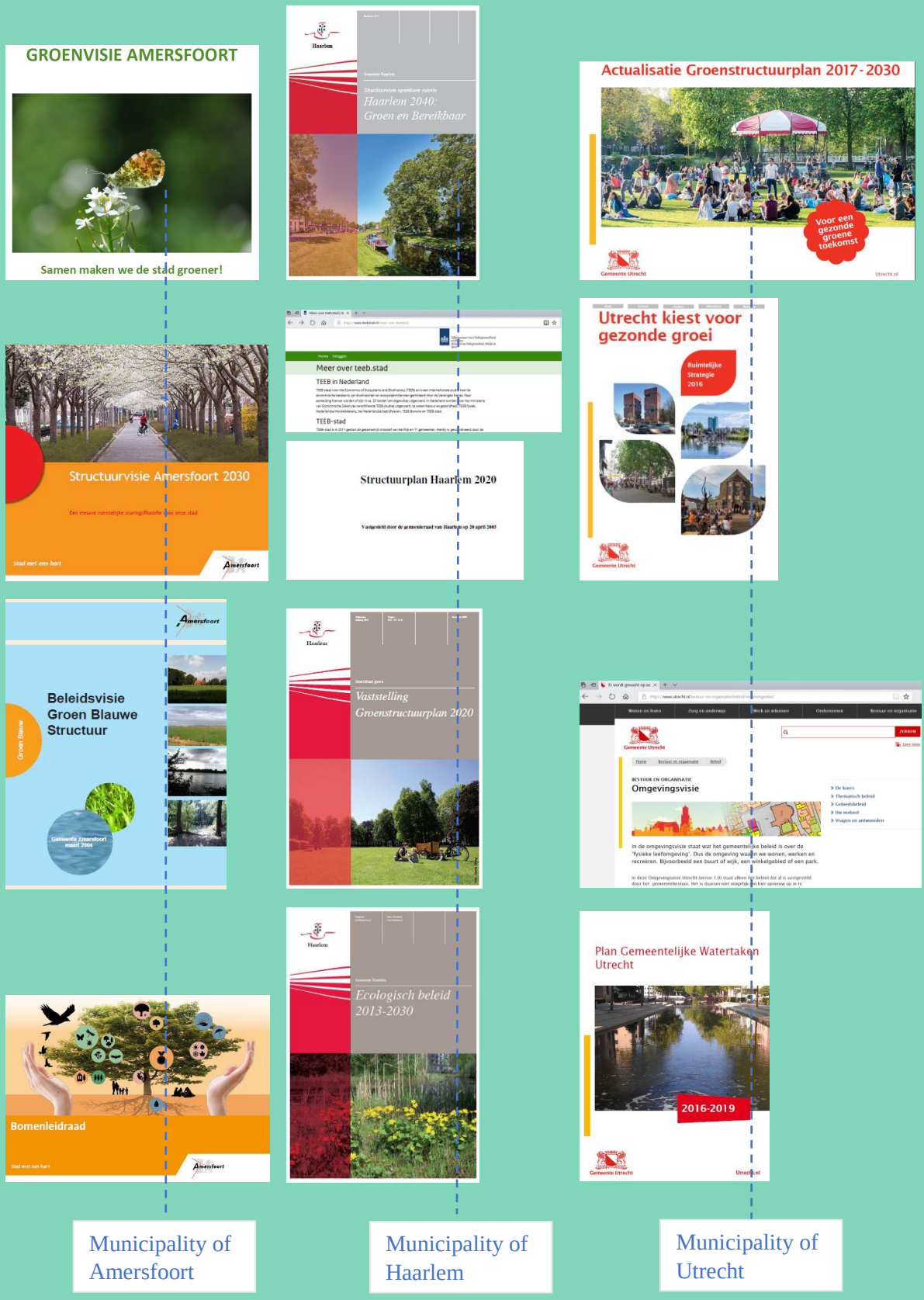


Figure 5.0B – Analysed policies per municipality
(Source: by author & see appendix A – Additional information on selected policies)

5.1 Results – Municipality of Amersfoort

First of all, the results for the municipality of Amersfoort are presented in the style of a summary style. The first sub-question is shortly answered under 'the main problem represented to be' as 'the problem representation in policy'. The second sub-question is shortly answered under 'origin' and the third sub-question is briefly answered under 'effects'. Look at the conceptual model (*see figure 5.0A*) and research questions presented at the start of this chapter to understand the style of the summary.

Main problem represented to be:

The Green Vision (Groenvisie [GV], 2016) is identified as the most relevant and recent policy document of the municipality of Amersfoort in relation to urban green (*see figure 5.1)*. A quote of the second chapter 'Groene Waarden – het belang van groen' (translated: Green Values – the importance of green) from the GV is selected for the main problem representation in relation to urban green of Amersfoort:

"Met het oog op een evenwichtige exploitatie is een samenhangende visie nodig. Want ieder ecosysteem levert meerdere ecosysteemdiensten. (...) Kortom, hoe kunnen we in Amersfoort ons groenareaal en ons water het beste benutten? In de volgende zes hoofdstukken zetten we zo veel mogelijk kansen en de bijbehorende dilemma's op een rij. (Translated: With a focus on a balanced exploitation, a coherent vision is needed. Because every ecosystem delivers multiple ecosystem services. (...) In short, how can we best use our green areas and our water in Amersfoort? In the next six chapters we put as many opportunities and the corresponding dilemmas as possible in line.)" (GV, 2016, p.11)



Figure 5.1 – Front page Green Vision of Amersfoort (Source: GV, 2016)

This quote is transformed into the following identified problem representation =

How to balance exploitation of ecosystem services [ES] of green and water, while taking dilemmas and opportunities into account? (Groenvisie [GV], 2016, p.11).

This problem representation and its origin and its effects are explained below.

Origin:

- **Knowledge:** Amersfoort was in need of a sequel for the Policy Vision Green Blue Structure [GBS] (2004), because the implementation program was virtually completed (GV, 2016, p.8) and challenges of new themes and the growth of the city needed to be included in green policy (GV, 2016, pp.3-6). In the sequel, the Green Vision [GV] (2016), the chapter 'Green values' discusses: intrinsic value, instrumental value, ES of green and blue and how a green appearance contributes to a business climate. The GV informs that products and services provided by ecosystems are essential for humans and that there are ES which counteract each other and ES which could be combined (GV, 2016, pp.9-11).
- **Cause represented to be:** Some interest groups want a particular function for green at the expense of other functions and/ or interest groups according to the final editor of the GV (I8, p.10). The GV explains that maximizing one ES leads to quick money and higher production, but at the expense of other ES, plus nuisance and extra costs elsewhere or later (GV, 2016, p.11).
- **Power:** City council members [CC-members] initiated to create the GV together with citizens and supported by municipal officials (GV, 2016, p.6; I6, p.1). A list of topics of the City Council

[CC] set the framework of the GV (GV, 2016, p.6). A project group was set up to organise the process and consisted of three CC-members of different fractions, two municipal officials and minimal three citizens (representatives of among others: a cooperating group striving for a liveable Amersfoort [SGLA] and the Tree Foundation) (I6, pp.1-2). This project group came up with six themes in relation to green and the idea of making lists of dilemmas and opportunities (I6, p.3; I8, p.5).

- **Justification:** The choice for the six themes in relation to green in the GV and the choice for the six values of trees in the Tree Guide (Bomenleidraad [BL] 2017, pp.8-13) are justified as what needs to be balanced. The six themes (= six chapters, see quote above) of the GV are: self-management, biodiversity, recreation, urban farming, climate resilience and trees (GV, 2016). The themes 'self-management' and 'trees' are however not actually ecosystem services, but two themes part of the framework set by the CC (GV, 2016, p.6).

Effects:

- **Solutions represented to be:** In relation to spatial development and green and blue, is intensifying use, connection and mixed use promoted in the Structure Vision of Amersfoort for 2030 [SV] (SV, 2013, pp.39-47), with the boundary condition that new (green and/ or blue-)developments lead to value creation and no quality loss (SV, 2013, p.18). The GV is seen as a testing framework (GV, p.6) and resulted in lists of dilemmas, lists of ideas for solutions and role divisions for all six themes (GV, 2016). The GV represents 'the collected material of the citizens' and it was without alterations established by the CC in November 2016. After that, the Board of Mayor and Aldermen came up with five priorities for elaboration plans (I8, p.6). The first priority is the *Tree Guideline*, which is established in December 2017. The choice is made to focus more on the quality of trees instead of the quantity, because a tree with more volume on the right spot could contribute more to ecosystem services such as absorb particulate matter and water compared to two smaller trees which have no space to grow (I6, pp.3-4). The second priority is to establish a *Main Green Structure Map* in environmental plans (BL, 2017, p.3), which according to I8 need to be made per neighbourhood together with citizens in order to become ultimately one main map (I8, pp.3-4). The third and fourth priority are a *Compensation Plan* and *facilitating and stimulating self-management*. The last priority is improving the *Green House* as a communication and meeting centre to continue collaboration of different parties (BL, 2017, p.3).
- **Problems left out:** The ring around the city (I8, p.11) or connecting rural and urban areas (I5, p.7) is not included in the GV, because the topic was not seen as a hot item by citizens who participated in the GV (I5, p.7). However, in regional policy and in the, still seen as valuable and additional (I5, p.1), GBS attention is paid to this topic (GBS, 2004, p.7; I5, p.7). In the Compensation Plan (I5, p.9) and Main Greenstructure Map (I5, p.3), the topic of connecting the city and rural area will be covered. Another big question remains: when is a city (fully) climate resilient? (I7, p.5).
- **Conflicts:** The GV is intended as a testing framework for policy and implementation (GV, 2016, p.6):

  "De raad wilde dat deze visie een toetsingskader biedt voor (te ontwikkelen) beleid en uitvoering (Translated: The council wanted this vision to offer a testing framework for (to be developed) policy and implementation)" (GV, 2016, p.6).

  However, the GV with its lists of dilemmas and opportunities per theme does not give concrete choices for the prioritised elaboration plans. A municipal official confirms that the GV indeed does not give direct answers to for example individual wishes and that decisions still need to be made in the elaboration plans with the GV as a lens (I5, pp.7-8):

"…waar de Groenvisie ook geen antwoord op geeft direct (op de gepresenteerde dilemma's). En er staan in de Groenvisie bijvoorbeeld ook heel veel individuele wensen van mensen in de stad. Maar de vraag is: in hoeverre zijn de individuele wensen een algemeen belang? (…) Dus daar gaan we tegenaan lopen de komende tijd. Bijvoorbeeld met het maken van die groenstructuurkaart. Dat wordt nog heel interessant van: ja, wat is dan vanuit de Groenvisie, met de bril van de Groenvisie, de hoofdgroenstructuur van de stad? (Translated: ... which the Green Vision does not answer directly (to the presented dilemmas). And there are also many individual wishes of people in the city in the Green Vision, for example. But the question is: to what extent are the individual wishes a general interest? (...) So we are going to run into this in the coming period. For example, when developing the green structure map. That will be very interesting: yes, what is, when taking the Green Vision into account, from the perspective of the Green Vision, the main green structure of the city?)" (I5, pp.7-8).

The municipal official of Amersfoort illustrates the unanswered questions: 'To what extent are the individual wishes in the GV a general interest?' and 'How will the Main Green Structure Map, one of the prioritised elaboration plans, incorporate the Green Vision?'. It remains to be seen how the identified dilemmas and opportunities of the six themes of the GV will be incorporated into the elaboration plans. The five elaboration plans of the municipality are seen as starting points for the coming years and do not literally name all themes. The idea is that the remaining themes could be tackled later or tackled by initiatives of citizens (I6, p.3). The problem representation is applied for the GV, but actually also still applies for the elaboration plans.

- **Subjectification of urban green:** Amersfoort likes to portray itself as a Green City; a determining quality for becoming a vital, attractive and sustainable city in search of sustainable balance (GV, 2016, pp.5-9; SV, 2013, pp.6-47). Urban green is seen as something which is related to themes/ values/ ES which could be combined (as solutions) or could counteract each other (which represents problems [PR]) and therefore is strived for balanced exploitation of ES (BL, 2017, pp.8-13; GV, 2016, p.11). Several dilemmas are presented in the GV according to a municipal official to show that 'there is not one truth; it (green, different values of green) should always be weighed (I5, p.7):

  "En ja wij hebben dan als ambtenaren ook wel deels ze (de dilemma's) erin proberen te krijgen, om te laten zien dat er niet één waarheid is zeg maar, maar dat er altijd afwegingen gemaakt moeten worden. (Translated: And yes, we as municipal officials have also partly tried to get them (the dilemmas) in it, to show that there is not one truth, but that there are always considerations to be made.)" (I5, p.7)

  This idea of always weighing and that there are also dilemmas is partly influenced by the municipal officials of the project group. In terms of further subjectification of urban green, the GV names several types of green, water and sometimes adds soil (GV, 2016, pp.5-11). The municipality of Amersfoort gives special attention to trees with a separate chapter in the GV (2016, pp.37-41). Latest research was also focused on trees: where to plant which type of trees in regard of climate change (I7, pp.2-3). The recently established BL (2017) focuses more on the quality of trees instead of the quantity (I6, pp.3-4). A dilemma of the GV shows however that this choice could lead to a disguised cut (GV, 2016, p.40). A municipal official of Amersfoort explains that more trees is strived for also in relation to climate adaptation in the GV, but that in the BL is written down what is achievable in light of more developments (I6, pp.3-4). At the same time the municipal official mentions it is strange to propose more and more developments, but leave out more trees and therefore Amersfoort tries to keep the balance (I6, p.7).

5.2 Results – Municipality of Haarlem

The results for the municipality of Haarlem are presented in the same summary style as section 5.1. The first sub-question is answered under 'the main problem represented to be', the second sub-question under 'origin' and the third sub-question under 'effects'. A quick look at the conceptual model and research questions presented earlier (*see start of this chapter*) help to understand this section.

Main problem represented to be:

The Structure Vision on Public Space (Structuurvisie Openbare Ruimte [SOR], 2017) is identified for the city of Haarlem as the most recent and relevant policy document in relation to urban green (*see figure 5.2)*. In chapter seven 'Haarlemse en regionale beleidstrajecten' (translated: Haarlem and regional policy paths) of the SOR, the following question is centralized in section 7.1.1 'De waarde van groen' (translated: the value of green):

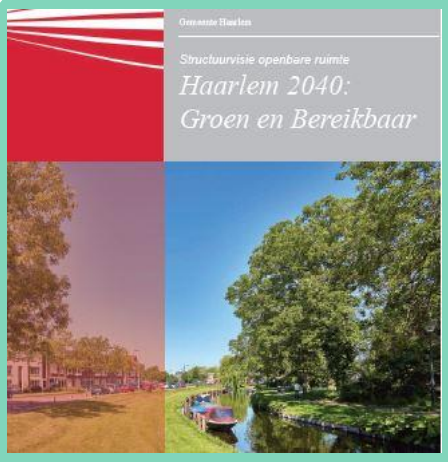


Figure 5.2 – Front page Structure Vision on Public Space of Haarlem (Source: SOR, 2017)

"Hoe kan de waarde van groen worden geïntegreerd in de stad? (Translated: How can the value of green be integrated in the city?)" (SOR, 2017, p.101).

The meaning of the part 'integrated in the city' in this quote remains unclear, but the following quote of a municipal official of Haarlem adds understanding what is meant:

"Hoe je groen bijvoorbeeld beter in projecten kunt krijgen (...) De vraag: we willen dat de waarde van groen beter meegenomen wordt in besluitvorming. Nou, hoe zou je dat dan kunnen vormgeven? (Translated: How, for example, you can get green better in projects (...) The question: we want the value of green to be better taken into account in decision making. Well, how could you formalize that?)" (I2, p.1).

The part 'integrated in the city' of the quote in the SOR is clarified by 'better taken into account in decision making' and the element of 'projects' of the quote of a municipal official of Haarlem. Based on these two quotes presented above, I identified the following problem representation for the municipality of Haarlem =

How to take the value of green better into account in decision-making of (re)development projects? (I2, p.1; SOR, 2017, p.101)

The origin and effects of this problem representation are explained below.

Origin:

- **Knowledge:** The municipality of Haarlem has been taking part in a national project together with other municipalities, research institutes and other organisations to finetune the TEEB-stad tool (Ecologisch Beleid [EB], 2013, pp.10-15; I2, p.6). According to the National Institute of Public Health and Environment and the Ministry of Public Health, Wellbeing and Sport (RIVM & Ministerie van VWS, 2018, p.2) the TEEB-stad tool provides knowledge about calculating the value of green and water:

  "Met de TEEB-stad tool is specialistische kennis over het berekenen van waarde van groen en water toegankelijk gemaakt voor een groot publiek. (...) Dit inzicht dient als basis voor het gesprek met baathouders en belanghebbenden, als eerste stap naar een gezamenlijk verdienmodel. (Translated: With the TEEB-stad tool, expert knowledge about the calculation of the value of green and water has been made accessible to a large audience. (...) This insight

serves the basis for a conversation with benefit holders and stakeholders, as the first step towards a joint revenue model.)" (RIVM & Ministerie van VWS, 2018, p.2)

In this quote, the represented goal of the TEEB-stad tool is presented as a first step for a joint revenue model and to use the tool as basis for conversations with stakeholders and benefit holders.

- **Cause represented to be:** The lack of attention for the value(s) of green in decision making processes of (re)development projects is seen as the cause of the problem (I1, p.2; SOR, 2017, p.101).
- **Power:** The main problem represented to be as described above was and remains a question from the City Council of Haarlem (I2, p.1). After the Green Structure Plan [GSP] (2009), which aimed for a green standard in terms of 'm2 green per dwelling' (GSP, 2009, pp.7-11), was rejected by the CC, the CC decided to develop a more integrated vision on all aspects of public space (including green) (I1, pp.1-2). In this Structure Vision on Public Space [SOR], established in December 2017, the increasing number of claims on public space resulting in competition between standards is seen as the main problem (SOR, 2017, p.9). In relation to green, the SOR explains that instead of adding a standard for green, the municipality focuses on the problem described above (I2, pp.1-2; SOR, 2017, p.101).
- **Justification:** Despite the fact that the development of the TEEB-stad tool has already been going on for several years and that the development has been described as a very difficult process, further development of the TEEB-stad tool is justified by a municipal official of Haarlem as: 'it [TEEB] is simply not yet been fully developed' (I1, p.4; RIVM & Ministerie van VWS, 2018, p.1).

Effects:

- **Solutions represented to be:** The SOR presents a Weighing Method for public space in which 16 theme maps are proposed to be weighed and prioritised before making decisions about developments in a specific location. The green structure map, which shows the 'valuable' green areas to be protected and strengthened, is seen as first priority in the Weighing Method at the request of citizens (SOR, 2017, pp.37-38). The municipality also mentions its choice to make the value of green more visible in policy by integrating green with other related domains. Furthermore, Haarlem continues to stimulate further development of the TEEB-stad tool and more research in order to come up with criteria or guidelines to better weigh green in decision making processes (I2, pp.1-6; SOR, 2017, p.101).
- **Problems left out:** Not much is mentioned about the small patches of green in the SOR. The small patches of green are not on the green structure map and therefore not in this way 'protected' (I1, p.4). The disappearance of (more) green (in the future) is actually not seen as a real problem by the CC compared to other 'problems' according to a municipal official of Haarlem. This is because it remains to be a 'wish' to develop more green instead of choosing for a hard starting point in policy (I2, pp.4-5). It is not yet mentioned in policy how to use the values of green to increase the amount of green, which we need to work on (I2, p.4).
- **Conflicts:** I find it confusing how the word 'value' in relation to green is used in different forms. The analysis in the appendix of the SOR uses the words 'values of green' (SOR, 2017, p.141), but the SOR uses the words 'the value of green' calculating the value in euros with the TEEB-stad tool (SOR, 2017, p.101) and 'the valuable green areas' of the green structure map (SOR, 2017, p.44). The Structure Plan [SP] (2005) of Haarlem mentions the ecological values (focussed on nature) and urban values (focused on humans) of green (SP, 2005, p.23). The 'value' or the plural 'values' of green is used interchangeably in the interviews (I1; I2).
- **Subjectification of urban green:** The municipality of Haarlem likes to see green as part of public space with the SOR (I1, pp.1-2). Haarlem separates a green structure map from a water

structure map in the Weighing Method of the SOR (2017, p.38) and has a separate tree policy and ecology policy (EB, 2013; I1, p.2). However, Haarlem wants to include for example the elements of water and soil for the importance of green, because everything what happens under- and aboveground could affect each other. The Weighing Method of the SOR, which does not yet have its final form for the Environment & Planning Law, is seen as essential to integrate all parts of public space (SOR, 2017, pp.113-114). Green is seen as something which adds quantifiable value when weighed (I2, p.2). In this view, additional value could be created with green mainly in terms of liveability, societal value (I2, pp.2-3), when integrating green with other domains by demonstrating for example its contribution to reducing heat stress (SOR, 2017, p.101). The idea is that with the help of the TEEB-stad tool this additional value could be quantified in euros and weighed more properly (I2, pp.2-6):

"Als beslissingsmodel. (...) Je probeert in beeld te brengen van hoeveel meer waarde kan je in een gebied krijgen.(...) Dan kan je een andere weging krijgen. (Translated: As a decision model. (...) You try to show how much more value you can get in an area.(...) In this way you can get a different weighting)" (I2, p.2).

"Van TEEB-stad tool. Dus hoe kun je rekenen aan groen? Hoe kun je zichtbaar maken wat de waarde van groen is, gewoon in euro's.? En nu willen we dat rekenmodel verbeteren, verfijnen. (Translated: From TEEB-stad tool. So how can you calculate green. How can you make visible what the value is of green, just in euros. And now we want to improve, refine that calculation model.)" (I2, p.6)

These quotes of a municipal official of Haarlem show how green is valued as potentially creating additional value to an area. Green is seen as something which could be calculated in euros, with the TEEB-stad tool seen as a calculation model and decision model.

5.3 Results – Municipality of Utrecht

This section presents the results of the municipality of Utrecht. In a summary style, the first sub-question is answered under 'the main problem represented to be', the second sub-question under 'origin' and the third sub-question under 'effects'. I advise to take a look at the conceptual model and research questions presented at the start of this chapter to understand this section better.

Main problem represented to be:

The updated green structure plan of the municipality of Utrecht (Actualisatie Groenstructuurplan [AG], 2017) is identified as the most recent and relevant policy in relation to urban green for this city (*see figure 5.3)*. In this policy an infographic is included which states also the starting point of the AG:

"Uitgangspunt: De kwaliteit van groen en blauw is een kans voor het goede vestigingsklimaat van Utrecht. Het beter benutten van de combinatie groen, bodem en water levert een belangrijke bijdrage aan die ambitie van een gezonde klimaatbestendige stad. (Translated: Starting point: The quality of green and blue is an opportunity for the good business climate in Utrecht. Making better use of the combination of green, soil and water makes an important contribution to the ambition of a healthy, climate-proof city.)" (AG, 2017, p.9)



Figure 5.3 – Front page Updated Green Structure Plan of Utrecht (Source: AG, 2017)

I identified the starting point of the AG as central for the problem representation of Utrecht. Healthy urbanization is added to the problem representation. This is because 'healthy urbanization' and 'healthy city' is used interchangeably in the AG, when looking at the represented five tasks/ ambitions/ goals and the three represented causes on the infographic and in the summary of the AG (AG, 2017, pp.6-10). I added 'how' and rephrased the starting point into a question, based on the interviews with the selected municipal officials of Utrecht:

How to use the potentials of green, blue and soil for a climate resilient and healthy city (= an attractive economic climate = healthy urbanization)? (I3, p.2; I4, p.3)

The origin of this identified problem representation is explained below. Subsequently, the effects of this problem representation are explained.

Origin:

- **Knowledge:** The quote above represents the knowledge that green contributes to new themes: 'health' and 'becoming climate resilient', which altogether could contribute to an attractive economic climate (AG, 2017, p.9).
- **Cause represented to be:** The represented reason for updating the green structure plan is first of all the population growth of Utrecht and the choice of the City Council to facilitate this growth by building within the city boundaries in a sustainable and healthy way (=healthy urbanization?). The second represented cause is flooding, heat stress and droughts leading to the need of taking climate adaptation measures. The third represented cause is the changing functions of green which needs better design (=Nature Based Solutions?). The changing functions and better design could relate to green for multiple purposes, including the new themes: health purposes and/ or climate adaptation purposes. The changing functions of green

could also relate to population growth which leads to green being used more intensively (AG, 2017, pp.6-10).

- **Power:** After the economic crisis, the new Board of Mayor and Aldermen centralised 'healthy urbanization' in the most recent structure vision called 'Spatial Strategy of Utrecht' (Ruimtelijke Strategie [RS], 2016, p.5). This 'healthy urbanization' or 'healthy growth' is presented as the spatial course ('de Koers' in Dutch') for long term liveability in Utrecht (De koers - Omgevingsvisie [OV], 2017). The RS as the spatial course, projects with organisations and research institutes and municipal departments reading research led to focussing on the potentials of green for health and climate adaptation (I3, pp.5-6). The idea of healthy urbanization and the two themes of the potential contribution of green for health and climate adaptation led to updating the Green structure plan (AG, 2017, pp.6-10; I3, p.2) and the problem representation presented above.
- **Justification:** The meaning of 'healthy urbanization' remains vague, but is important to understand for what purpose green is used for. Explained is that the municipality of Utrecht chooses to facilitate growth by building within the urban area and by investing in public space and facilities (De Koers - OV, 2017; RS, 2016, p.6). The AG (2017, p.9) adds 'building in a sustainable and healthy way'. Healthy urbanization is one of the goals of the AG (p.9) and I think the vision of Utrecht is that green could be used for healthy urbanization (*see PR above*). This because according to the RS, healthy urbanization means focussing on exercise, wellbeing, housing, job and education opportunities, sustainability and moreover, to centralize being a city of meeting opportunities:

  "Gezonde verstedelijking is in alle gevallen het uitgangspunt. Dat betekent focussen op bewegen, welbevinden, perspectief op wonen, werk en opleiding, duurzaamheid. Utrecht is bovendien, meer dan andere Nederlandse steden, een plek waar ontmoeting centraal staat. (Translated: Healthy urbanization is the starting point in all cases. That means focusing on exercise, well-being, perspective on living, work and education, sustainability. Moreover, Utrecht is, more than other Dutch cities, a place where meeting is central.)" (RS, 2016, p.6)

  This quote shows 'healthy urbanization is the starting point of all cases', so the question is which of all these topics are chosen in decision making. Healthy urbanization could be the start of and the answer to everything, because it represents almost everything. But what is actually chosen when the choice is framed as 'healthy urbanization'? Because meeting is central to Utrecht more than other cities, is increasing meeting opportunities more often chosen as the presented solution concerning urban green, for example?

Effects:

- **Solutions represented to be:** The presented solutions in the AG to the problem are 'Nature Based Solutions', which means using nature in an efficient and multifunctional way for ecological, economic and social quality (AG, 2017, p.6; I3, p.5). The term derives from the European Commission and ideas how this could be done are: including more functions of green and blue, less petrification and a different approaching to mobility and building (AG, 2017, p.27). The working method to achieve this is by: aiming for broad cooperation to jointly achieve urban goals while taking five goals for green into account, a weighing framework with criteria, a still to be adjusted vision map and to yearly develop the 'Meerjaren Groenprogramma', which is an investment and implementation program for green projects. The five goals are: 'more and better green within the city', 'faster outside', 'more green surrounding the city', 'healthy urbanization' and 'climate adaptation' (AG, 2017, pp.7-34; I3, pp.2-9).
- **Problems left out:** According to municipal officials of Utrecht the following is left out in the most recent and relevant policies in relation to urban green. Firstly, more attention for what housing development within city boundaries means for green and water is missing in the RS

(I4, p.9). Moreover, building more and/ or higher has a max for the liveability of public space (I3, p.7). A green standard was rejected for the AG, but without a green standard green is experienced to be the first thing that will be cut in the design (I4, pp.4-5). In addition, an overarching vision on climate adaptation which includes blue and green is missing. It is among other things not clear how far Utrecht wants to go with climate adaptation (I4, pp.7-8).

- **Conflicts:** I am worried that building more at the expense of the amount of urban green could be justified by creating more meeting opportunities. Meeting is presented to be an important aspect of public space (RS, 2016, p.29). Meeting opportunities are also presented to be an important element for healthy urbanization (RS, 2016, pp.6-7). The more meeting happens in a public space (= the more use), the higher the quality level is of the design and management of a public space (Kwaliteit openbare ruimte - OV, 2017; RS, 2016, p.31). Building more in public space is even seen as a solution to intensify the use of green:

  "In Overvecht is heel veel groen, we streven naar een nog intensiever gebruik. Toevoegen van bebouwing kan daarbij een rol spelen. (Translated: In Overvecht is a lot of green, we aim for an even more intensive use. Adding buildings can play a role in this.)" (RS, 2016, p.30).

  Intensifying the use of green, increases meetings. Confusingly, intensive use of green due to population growth is seen as one of the tasks of the AG and is presented in other words as healthy urbanization (2017, p.6). I find it hard to understand that healthy urbanization is presented as a task, ambition and goal for the AG (2017, pp.6-9) and that I identified healthy urbanization as potentially being part of the cause and the solution at the same time. Based on the represented solution: creating efficient multifunctional green, I understand that intensifying the use of green is seen as something positive. Intensifying use of green in turn leads in this thinking of Utrecht to upgrading the quality level of public space. It remains however to be seen what the limits are of efficient multifunctional green: how this quality level of the public space could be of ecological, social and economic quality in a balanced way or how one or two of the three will be prioritised.
- **Subjectification of urban green:** The municipality of Utrecht sees urban green as a potential integrative solution (AG, 2017, p.6). A municipal official argues that problems could be solved with green and that it has more values than only nature (conservation) (I3, pp.5-6). Green is seen as part of our natural capital, which could be used more optimally. Our natural capital could offer solutions to urban challenges as healthy urbanization and climate adaptation (AG, 2017, p.27):

  "Ons natuurlijke kapitaal - natuurlijke hulpbronnen zoals bodem, water, planten en dieren – kan effectieve oplossingen bieden voor stedelijke opgaven (...) Hiermee draagt het natuurlijk kapitaal bij aan gezonde verstedelijking en klimaatadaptatie. (Translated: Our natural capital - natural resources such as soil, water, plants and animals - can provide effective solutions to urban challenges (...) In this way natural capital contributes to healthy urbanization and climate change adaptation.)" (AG, 2017, p.27)

  With our natural capital, the natural resources soil, water, plants and animals are mentioned in this quote. In relation to types of green, the municipality talks about creating a green-blue structure (AG, 2017, p.10) and has a separate structure map and policy on trees (Bomenbeleid – Omgevingsvisie [OV], 2017). In the weighing framework of the AG is explained that green is seen as equal to other interests, but that green is prioritized more in neighbourhoods with a green-shortage compared to other neighbourhoods (AG, 2017, p.33).

5.4 Results – First sub-question: Problem representations in relation to urban green

In this section an answer will be given to the first sub-question of this research, namely:

1. *What is the problem represented to be in relation to urban green in the most recent and/ or relevant municipal policies of the Dutch cities Amersfoort, Haarlem and Utrecht?*

For every selected municipality I looked at what is represented in policy as 'the' problem in relation to urban green. For this reason I examined which policies are viewed as the most recent and relevant in relation to urban green and which main problem is represented in the most recent and relevant one. Based on the interviews, the following policies are identified as the most recent and relevant policy document in relation to urban green for the selected cities: the Green Vision (Groenvisie [GV], 2016) for **Amersfoort**, the Structure Vision on Public Space (Structuurvisie Openbare Ruimte [SOR], 2017) for **Haarlem** and the Updated Green Structure Plan (Actualisatie Groenstructuurplan [AG], 2017) for **Utrecht**. The main problems represented to be in relation to urban green identified are mainly based on quotes from the policy documents (*see previous sections of this chapter: 5.1-5.3).* I transformed these quotes into a question which captures all relevant elements also discovered during the document analysis and analysis of interview transcripts. For all three municipalities, in my experience these problem representations are in a way hidden and do not have a prominent place in the policy document. A municipal official explained that the policy is more focus on portraying the final image instead of naming the problem and the origins in the policy (I2, p.4). This could also clarify why the interviewed policy makers and/ or municipal officials gave slightly different answers to the question: 'What is the main problem in relation to urban green the municipality tries to tackle?' and in my experience struggled with this question. I formulated the main problems represented to be into a question instead of a statement, because the idea is problem-questioning (*see chapter 2. Theoretical framework, section 2.2 Problem questioning).* I am inspired to formulate the main problem represented to be into a question by interviewees who answered with a question (I1, p.2; I2, p.1; I3, p.2; I4, pp.1-6; I6, pp.5-9; I8, p.3) and policies (SOR, 2017, p.101) which formulated a question. The main problem represented to be for the three selected municipalities are again shown below:

Main problem represented to be =

- How to balance exploitation of ecosystem services [ES] of green and water, while taking dilemmas and opportunities into account? (GV, 2016, p.11) ***(Amersfoort)***

- How to take the value of green better into account in decision-making of (re)development projects? (I2, p.1; SOR, 2017, p.101) ***(Haarlem)***

- How to use the potentials of green, blue and soil for a climate resilient and healthy city (= an attractive economic climate = healthy urbanization)? (AG, 2017, p.9; I3, p.2; I4, p.3) ***(Utrecht)***

In short, these three questions differ when you look at the verbs: 'How to balance (…), (while) taking (…) into account?', 'How to take (…) (better) into account (…)?' and 'How to use (…) (for) (…)?'. The problem representation of **Amersfoort** acknowledges that ES are exploited when used and together with the aspect of balancing refers to a worldview beyond the instrumental value of green into the direction of valuing the intrinsic value of green. Balanced exploitation of ES is indirectly presented as the solution in this problem representation. The policy concept of ES is used, but the notion of taking dilemmas and opportunities of green into account could refer to the policy concept of ecosystem disservices (*see instrumental value and intrinsic value of nature, ES and ecosystem disservices in chapter 4).* The problem representation of **Haarlem** directs towards the economics of ecosystems and biodiversity [TEEB] and focuses on taking 'the value' of green in monetary terms better into account (*see TEEB in chapter 4)*. The aspect of using green of **Utrecht** clearly refers to the policy concept of the instrumental value of nature (*see chapter 4)*. One of the problem representations I identified as connected to the policy concept of Nature Based Solutions (*see Nature Based Solutions in chapter 4)* is '(1)

unsustainable urbanization and related human health issues', which could refer to 'healthy city' and 'healthy urbanization'. Identified problem representations of the policy concept of Nature Based Solutions: '(3) climate change and (4) natural disaster risks', could refer to 'climate resilient city'. This problem representation of Utrecht represents indirectly a solution: green as a potential solution for a climate resilient and healthy city, for an attractive economic climate and for healthy urbanization all together. Another identified problem representation of Nature Based Solutions is 'the environmental, social and economic challenges'. The economic aspect is mentioned in 'an attractive economic climate', the social aspect could be covered in 'healthy city' and 'healthy urbanization' and the ecological aspect could be covered in 'climate resilient', but climate resilience could also have an economic motivation of reducing costs by reducing water nuisance. It remains unsure to what extent Utrecht strives to use green for economic, social and/ or ecological benefits. Indirectly it is presented in the problem representation that 'in decision making processes of (re)development projects' the place is for a solution. In a way these problem representations of the three selected cities in short could be described as: 'How + represented solution?'.

5.5 Results – Second sub-question: Origins of problem representations

In this section I give an answer to the second sub-question of this research:

2. *How have these problem representations in relation to urban green come about in these policies? (what are their origins)*

This sub-question refers to the problem representations identified in the first sub-question (*see 5.4 Results – first sub-question and sections 5.1-5.3).* 'How have problem representations come about' is interpreted as the origins of problem representations. The origins are divided into four sensitizing concepts: knowledge, represented cause(s), power and justifications (*see conceptual model figure 2.3 or 5.0A and sections 5.1-5.3).* For an overview of the used abbreviations for the selected policies and interviewees see table 3.3A (*see section 3.3 Data-analysis).*

The aspect of the problem representation of **Amersfoort** 'how to balance exploitation of ecosystem services [ES]' refers to the represented cause in the Green Vision [GV](2016) of Amersfoort that maximally exploiting one ES by humans causes harm to other ES. Secondly, the aspect of the problem representation 'how to balance exploitation of ES' is based on the knowledge that ES are essential to humans (GV, 2016, pp.9-11). The last part of the identified problem representation of Amersfoort 'taking dilemmas and opportunities into account' derives from the project group of the GV, because the project group decided to make lists of dilemmas and opportunities per theme for the GV (I6, p.3; I8, p.5). This aspect of the problem representation of 'taking dilemmas and opportunities into account' is also based on the knowledge that some ES could counteract each other and some ES could be combined (GV, 2016, pp.9-11).

The municipality of **Haarlem** sees the lack of attention for the value(s) of green in decision making processes of (re)development projects as the cause of the problem (I1, p.2; SOR, 2017, p.101). The problem representation of Haarlem is influenced by the city council, because the problem representation represents a question from the city council (I2, pp.1-2). The part of the problem representation 'taking the value of green better into account' is based on the knowledge that the TEEB-stad tool provides knowledge about calculating the value of green and water (EB, 2013, pp.10-15; I2, p.6; RIVM & Ministerie van VWS, 2018, p.1). The word 'better' of the problem representation could refer to the represented cause 'lack of attention for the value of green' (I1, p.2; SOR, 2017, p.101), but could also refer to the fact that the municipality has been taken part in the national project to develop the TEEB-stad tool already for a long time. The long and difficult process is justified and further development is promoted (I1, p.4).

The problem representation of the municipality of **Utrecht** is not represented as a question in the Updated Green Structure Plan [AG] (2017), but as the starting point for the AG. The starting point

represents the knowledge of the potential contribution of green, water and soil to health and becoming climate resilient, which together contribute to an attractive economic climate (AG, 2017, p.9). The knowledge of these potentials of green derives from projects with organisations and research institutes, from municipal departments reading research and from the Spatial Strategy [RS] (2016) as spatial course, according to an interviewed municipal official of Utrecht (I3, pp.5-6). Three causes are represented in the AG (2017, pp.6-10) which could clarify the problem representation. The third represented cause 'the changing functions of green' could refer to the aspect of the problem representation 'how to use green'. The second represented cause 'the need of climate adaptation measures because of expected floods, heat stress and droughts' refers to the aspect of the problem representation 'how to use green for a climate resilient city'. The first represented cause in the AG is 'facilitating population growth by healthy urbanization', which refers to the aspect in the identified problem representation 'how to use green for healthy urbanization' (AG, 2017, pp.6-10). The Board of Mayor and Aldermen influenced the problem representation by introducing 'healthy urbanization' as central for the RS (2016) and the spatial course in the Environmental Vision (2017) of Utrecht, which was applied to the AG (OV, 2017; RS, 2016, p.5). However, what is meant by healthy urbanization remains vague in the RS and in the AG and therefore also remains unclear for the problem representation of Utrecht.

5.6 Results – Third sub-question: Effects of problem representations

The third sub-question is answered in this section:

3. What are the effects for urban green of these problem representations in these policies?

The effects for urban green of the identified problem representations of Amersfoort, Haarlem and Utrecht are discussed (*see 5.4 Results – first sub-question and sections 5.1-5.3).* The effects are divided into four sensitizing concepts (*see conceptual model figure 2.3 or 5.0A and sections 5.1-5.3*): represented solutions, left out problems, conflicts and subjectification of urban green. For an overview of the used abbreviations for the selected policies and interviewees see table 3.3A (*see section 3.3 Data-analysis).*

The city of **Amersfoort** could see the 'Groenvisie' [GV] itself as a solution to the problem representation, because it is meant as a testing framework of the collected material of the citizens (GV, 2016, p.6; I8, p.6). The GV presents per theme lists of dilemmas, ideas for solutions and role divisions (GV, 2016). Secondly, the five prioritised elaboration plans of the GV by the Board of the Mayor and Aldermen could be seen as the represented solutions to the problem representation (I8, p.6). The five priorities for elaboration plans of the GV are: establishing a Tree Guide [BL] (2017), Main Green Structure Map and Compensation Plan, and stimulating self-management and 'Het Groene Huis' as communication and meeting centre (BL, 2017, p.3). An effect of the problem representation is the conflict that it could be questioned when to stop 'taking dilemmas and opportunities into account', and make a decision based on that. The problem representation still applies for the development of these elaboration plans, because the GV does not give concrete choices as a testing framework. The first established elaboration plan is the BL (2017), which is established in December 2017 (I6, p.3). The BL goes beyond taking dilemmas and opportunities of ecosystem services [ES] into account, because in this policy the choice is made to focus more on qualitative trees on the right sport, which provide more ES compared to more quantity of small trees which cannot grow (I6, pp.3-4). This describes how the share of urban green in relation to ES is understood (*see share of urban green in relation to ES in chapter 4).* Also the instrumental value of trees: providing ES, is acknowledged (*see instrumental value of nature and ES in chapter 4)*. Besides that, the GV mentioned the dilemma of preferring quality of trees over quantity of trees which could lead to a disguised cut, which is also mentioned again in the BL (2017, p.4; GV, 2016, p.40). Why the municipality only strives to increase the quantity of trees and cannot confirm in the policy to do both (I6, pp.3-7), describes to what extent Amersfoort values trees in itself. The municipality values trees intrinsically, but not fully as humans in harmony with nature (*see intrinsic*

value of nature in chapter 4). The problem representation of Amersfoort leads to the subjectification of urban green that balanced exploitation of ES is what needs to be strived for (GV, 2016, p.11). Urban green is seen as something which is related to ES in the problem representation (GV, 2017, p.11), themes in the GV (2016) and values in the BL (2017, pp.8-13). These ES/ themes/ values of urban green could be combined (as solutions/ opportunities) or could counteract each other (which represents problems/ dilemmas) (GV, 2016, p.11). Amersfoort sees urban green in this way also as a potential problem, which relates to the policy concept of ecosystem disservices (*see ecosystem disservices in chapter 4)*. It is confusing that the terms ES, themes and values are all used in these policies, which makes it hard to judge if the elaboration plans will present a balanced exploitation of ES in relation to urban green. Left out problems according to the interviewees are: 'when is a city (fully) climate resilient?'(I7, p.5) and including the rural area around the city in the GV (I5, p.7; I8, p.11). The identified problem representation does indeed not specifically include climate resilience and what type of green needs to be included.

For **Haarlem**, an effect of the problem representation is that further development of the TEEB-stad tool is seen as the solution (SOR, 2017, p.101). The aspect 'the value of green' of the problem representation refers to the TEEB-stad tool (*see TEEB in chapter 4)*. It is however noticed that the word 'value' in relation to green is used in different forms in the interviews (I1; I2), in different policy documents and in the same policy document of the 'Structuurvisie Openbare Ruimte' [SOR] (SOR, 2017, pp.44-141; SP, 2005, p.23). When acknowledging that 'the value of green' in the problem representation not only refers to monetary value presented by the TEEB-stad tool (I2, p.6), the problem representation also applies to the other represented solutions. The Weighing Method is seen as an important solution of the Structure Vision on Public Space [SOR]. The Weighing Method is promoted to be used for decision making processes about (re)development of public space (SOR, 2017, pp.37-38), which refers to the part of the problem representation of 'in decision making of (re)development projects'. The green structure map is prioritised in the Weighing Method (SOR, 2017, pp.37-38) and in this way 'valuable green' is better taken into account (SOR, 2017, p.44). A green structure map also refers to the policy concepts of green structures (*see connected green structures in chapter 4).* A municipal official of Haarlem mentioned that the small patches of green are left out in the green structure map of the SOR (I1, p.4). It could be questioned why this is done. Would these small patches of green be included in decision making of (re)development projects, if these small patches of green were seen as valuable? Would these small patches of green be included in decision making of (re)development projects, if these small patches of green are seen as part of green? It is also mentioned by a municipal official of Haarlem that the disappearance of (more) green (in the future) is actually not seen as a problem by the city council, because it remains a wish instead of choosing for a green standard (*see green standards chapter 4)*(I2, pp.4-5). The aspect of the problem representation: 'how to take the value of green better into account' shows how green could be included, so the focus is not totally on green. Urban green is in the SOR seen as part of public space (I1, pp.1-2; SOR, 2017, p.101). Urban green is seen as adding (mainly societal) value, when it is weighed with other related domains (I2, pp.2-3; SOR, 2017, p.101). It is thought that this added value could be quantified in euros with the TEEB-stad tool as a solution, but other research to create criteria or guidelines to better weigh green with other related domains in decision making is also seen as a solution (I2, pp.1-6; SOR, 2017, p.101). According to a municipal official of Haarlem the problem is left out in policy how to use the values of green to increase the amount of green (I2, p.4). It appears that the municipality of Haarlem believes green needs to be weighed with other domains of public space to become seen as valuable and with the TEEB-stad tool the instrumental value of green is promoted, but the intrinsic value of green has currently not yet become dominant in policy of Haarlem (*see instrumental value and intrinsic value of nature in chapter 4)*.

The problem representation of the city of **Utrecht** takes the potential contribution of green for a healthy city, a climate resilient city, an attractive economic climate and healthy urbanization altogether for granted and this results in a subjectification of urban green that it could solve multiple urban problems (AG, 2017, p.27). Urban green is clearly in this way instrumentally valued. Moreover, this worldview

does not go beyond the instrumental value to intrinsically valuing urban green (*see instrumental and intrinsic value of nature in chapter 4)*, because it is seen as our natural capital (AG, 2017, p.27). Urban green is in this way seen as possession of humans and for human wellbeing (*see natural capital in chapter 4)*. The condition suggested how urban green could go from a potential solution to a real solution is that green should be used more optimally (AG, 2017, p.27). Optimally used green are presented as 'Nature Based Solutions'(AG, 2017, p.27): efficient and multifunctional green for social, ecological and economic quality (AG, 2017, p.6)(*see also policy concept Nature Based Solutions in chapter 4)*. The conflict is left out that one or two of the three qualities could be preferred over another at the expense of (a quality of) green in decision making. Increasing meeting opportunities is for example a social quality of urban green which could lead to intensified use of urban green. Building more in green to intensify use, which could be seen as efficient green, is justified in the Spatial Strategy [RS] (2016, p.30), but reduces the amount of green. This conflict is left out and according to a municipal official of Utrecht the problem is also left out that building more and/ or higher has a max for the liveability of public space (I3, p.7). Utrecht aims in the 'Actualisatie Groenstructuurplan' [AG] for 'broad cooperation' to jointly achieve 'urban goals' and to take five goals for green into account, to adjust a vision map, to yearly develop an investment and implementation program for green projects and the policy presents a weighing framework with criteria as solutions to the problem representation (AG, 2017, pp.7-34; I3, pp.2-9). The name of the policy 'Updated Green Structure Plan' refers to the policy concepts of green structures (*see chapter 4).* Nevertheless, another important problem left out in the AG, according to a municipal official of Utrecht, is that without a green standard (*see chapter 4)*, green will be the first to be cut in a design (I4, pp.4-5). The problem representation questioned how to use green, blue and soil for a climate resilient city, but according to the same municipal official an overarching vision on climate adaptation including blue and green is currently still missing for the city of Utrecht (I4, pp.7-8).

5.7 Results – Main Question

This is the final section of the results chapter. For an overview of the used abbreviations for the selected policies and interviewees see table 3.3A (*see section 3.3 Data-analysis).* All previous sections of this chapter (*see sections 5.1-5.6)* and the quickscan of policy concepts (*see chapter 4)* are taken into account to give answer to the main question of this research:

How are problems in relation to urban green represented in the most recent and/ or relevant municipal policies of the Dutch cities Amersfoort, Haarlem & Utrecht and what are the origins and effects of these problem representations?

I identified three main problem representations in relation to urban green for the municipalities Amersfoort, Haarlem and Utrecht.

Main problem represented to be =

- How to balance exploitation of ecosystem services [ES] of green and water, while taking dilemmas and opportunities into account? (Groenvisie [GV], 2016, p.11) ***(Amersfoort)***

- How to take the value of green better into account in decision-making of (re)development projects? (I2, p.1; Structuurvisie Openbare Ruimte [SOR], 2017, p.101) ***(Haarlem)***

- How to use the potentials of green, blue and soil for a climate resilient and healthy city (= an attractive economic climate = healthy urbanization)? (Actualisatie Groenstructuurplan [AG], 2017, p.9; I3, p.2; I4, p.3) ***(Utrecht)***

However, it is first of all striking that the identified main problem representations are in a way hidden and do not have a prominent place in the selected policies. In order to get to these three main problem representations, I formulated three questions based on the selected policies and interview transcripts. In

the case of **Amersfoort**, I combined text parts of the second chapter 'Groene Waarden – het belang van groen' (translated: Green Values – the importance of green) of the Green Vision. For **Haarlem**, I specified a formulated question in the seventh chapter 'Haarlemse en regionale beleidstrajecten' of the Structure Vision on Public Space of Haarlem with input of an interview. For **Utrecht**, I transformed 'the starting point' of the Updated Green Structure Plan with additional information on the infographic and summary of this policy and together with input of interviews into the above 'main problem represented to be'. Notable is that the word 'problem' is not used in these selected text parts (*see sections 5.1-5.3)*. The identified main problem represented to be for the Green Vision (GV, 2016) of **Amersfoort**, Structure Vision on Public Space (SOR, 2017) of **Haarlem** and Updated Green Structure Plan (AG, 2017) of **Utrecht** all have the following same structure: 'How + represented solution?'. The proposed solution is in this way hidden in the represented problem. The central question is how to get to this represented solution. This focus on how to get to the represented solution(s) could be explained by the idea of a policy as solution. A municipal official of Haarlem explained that the policy is more focus on portraying the final image instead of naming the problem and the origins in the policy (I2, p.4).

Secondly, I identified the origins of these problem representations by focussing on acquired knowledge, represented causes, power and justifications. The information revealed with these four sensitizing concepts are mentioned in the selected policies in relation to urban green and/ or mentioned by the interviewed municipal officials and/ or policy makers. These interviewees have been involved in the process before the writing of the selected policies, the writing itself of the selected policies and/ or the resulting projects of the selected policies. Parts of these problem representations could be explained by what knowledge about urban green officials had acquired, for instance on policy concepts (*see chapter 4 Quickscan - policy concepts relating to urban green and the implied problem representations)*. Elements of the problem representation of **Amersfoort** are based on knowledge that has familiarity with concepts such as ecosystem services [ES], ecosystem disservices, instrumental and intrinsic value of nature (GV, 2016, pp.9-11). Elements of the problem representation of **Haarlem** are based on knowledge about The Economics of Ecosystems and Biodiversity [TEEB] (EB, 2013, pp.10-15; I2, p.6; RIVM & Ministerie van VWS, 2018, p.1). Elements of the problem representation of **Utrecht** are based on knowledge about the potentials of green (I3, pp.5-6) and has familiarity with the policy concept of the instrumental value of green. The presented solutions within the problem representation of Utrecht 'for a healthy and climate resilient city' and 'healthy urbanization' could refer to problem representations I identified in chapter 4 which derive from the policy concept of Nature Based Solutions. The represented causes of the three cities could also be related to parts of the problem representations (*see for a detailed explanation section 5.5)*. Important people in power, which influenced elements of the problem representations are: the project group of the GV for **Amersfoort** (I6, p.3; I8, p.5), the city council for **Haarlem** (I2, pp.1-2) and for **Utrecht** the Board of Mayor and Aldermen (RS, 2016, p.5). Furthermore, policies, research, projects and used concepts had an influence to an aspect of the identified problem representations of the three cities. For example, the rejection of the Green Structure Plan (2009) of Haarlem which presented a green standard and instead taking part in national projects together with research institutes and other organisations about the TEEB-stad tool lead to the aspect of 'the value of green' in the problem representation of Haarlem (EB, 2013, pp.10-15; I1, pp.1-2; I2, pp.1-6; SOR, 2017, p.101). Besides that, research read by municipal departments of Utrecht about the potentials of green (I3, pp.5-6) and the established policy the Spatial Strategy [RS] (2016) of Utrecht which centralises the concept of healthy urbanization for example influenced the problem representation of Utrecht. And lastly about the origins of the problem representations of the three cities: justifications are made about policy concepts in relation to urban green which could lead to questioning the problem representation. The policy concept of ES is in the problem representation of Amersfoort, but ES is not clearly taken into account in the choice of chapters of the GV (2016) or elaboration plans in the case of **Amersfoort**. The value of green, which refers to the policy concept of TEEB (RIVM & Ministerie van VWS, 2018, p.2), is in the problem representation of **Haarlem**. However the idea of focussing on the value of green could be questioned, because the development of the TEEB-stad tool has been a long and

difficult process (I1, p.4). The policy concept of healthy urbanization is in the identified problem representation of **Utrecht**, but the meaning of the concept remains unclear in the RS (2016) and AG (2017).

Thirdly, the represented solutions, subjectification of urban green, left out problems and conflicts are the four sensitizing concepts I operationalised as the effects of the problem representations in this research. The represented solutions for urban green I identified partly fit to the identified problem representations in policy, because the left out problems mentioned by the interviewees and the justifications and conflicts I identified show flaws between the connection to the represented problem and the represented solutions. I identified the represented solutions based on what is mentioned in the selected most recent and/ or relevant policies in relation to urban green and what is mentioned by the interviewed relevant policy makers and/ or municipal officials. The municipalities Amersfoort, Utrecht and Haarlem came up with the following represented solutions to urban green at the level of an entire policy:

- A policy named 'Groenvisie' (translated Green Vision), representing the collected material of the citizens (I8, p.6), as testing framework with lists of dilemmas, ideas for solutions and role divisions for six themes relating to green (GV, 2016; I8, p.6), for five prioritised elaboration plans (BL, 2017, p.3). (***Amersfoort)***
- An integrated policy 'Structuurvisie Openbare Ruimte' (translated: Structure Vision on Public Space) with a Weighing Method for decision making about developments in public space. The green structure map, which shows the 'valuable' green areas to be protected and strengthened, is seen as first priority in the Weighing Method at the request of citizens (SOR, 2017, pp.37-44). The green structure map refers to the policy concepts of green structures (*see chapter 4).* (***Haarlem)***
- An updated policy called 'Actualisatie Groenstructuurplan' (translated: Updated Green Structure Plan) presents five goals for green: 'more and better green within the city', 'faster outside', 'more green surrounding the city', 'healthy urbanization' and 'climate adaptation'. The municipality aims for 'broad cooperation' to jointly achieve 'urban goals' and to take all these five goals into account. This policy presents a weighing framework with criteria and it aims to adjust a vision map and to yearly develop an investment and implementation program for green projects (AG, 2017, pp.7-34; I3, pp.2-9). The name of the policy 'green structure plan' refers to the policy concepts of green structures (*see chapter 4).* (***Utrecht)***

At the level of measures within the policies, the represented solutions to urban green are:

- The first established elaboration plan of the GV: the BL (2017) focuses more on qualitative trees on the right sport, which provide more ES compared to more quantity of small trees which cannot grow (I6, pp.3-4). This choice/ represented solution relates to the policy concepts instrumental value, ES and share of urban green in relation to ES (*see chapter 4)*. Why the municipality increases quality of trees and only strives to increase the quantity of trees (I6, pp.3-7), explains that trees are valued to a small level intrinsically, but not fully as humans in harmony with nature (*see chapter 4).* (***Amersfoort)***
- Further development of the TEEB-stad tool (SOR, 2017, p.101). Furthermore, stimulating other research focussed towards developing criteria to weigh green better in decision making of (re)development projects (I2, pp.1-6; SOR, 2017, p.101). (***Haarlem)***
- Urban green becomes a solution, a Nature Based Solution, when it is optimally used: in an efficient and multifunctional way for social, ecological and economic quality (AG, 2017, p.6). ***(Utrecht)***

Another effect of the problem representations in policies is subjectification of urban green. All municipalities use a combination of 'water and green', sometimes add 'soil' (AG, 2017, p.9; GV, 2016, p.5; SOR, 2017, pp.113-114) and sometimes reduce it to only talking about 'green' in the selected

policies. All most recent and main municipal policies on urban green talk about a green and blue structure (AG, 2017, p.10 ; GV, 2016, p.5; SOR, 2017, p.38). In terms of 'green', different types of green, such as parks, are named in all policy documents. Looking at types of green on a smaller scale, all municipalities have a separate policy for trees and trees therefore are given exceptional attention compared to for example grass and scrubs (BL, 2017; I1, p.2; OV, 2017). However, these different types of green are not all included in the identified problem representations of the policies. It does not seem to have a clear effect if only green or for example also water and soil are added to the problem representations in policy for the subjectification of urban green, but also the importance of the problem representations in policy is questioned earlier.

The aspect of the problem representation of **Amersfoor**t 'how to balance exploitation of ES' leads to the subjectification of urban green that balanced exploitation of ES is what needs to be strived for (GV, 2016, p.11). The aspect of the problem representation 'taking dilemmas and opportunities into account' is reflected in the knowledge that these ES/ themes/ values of urban green could be combined (as solutions) or could counteract each other (which represents problems) (BL, 2017, pp. 8-13; GV, 2016, p.11). Amersfoort therefore sees urban green also as a problem, which relates to the policy concept of ecosystem disservices. The aspect of the problem representation of **Haarlem**: 'how to take the value of green better into account' shows how green could be included, so the focus is not totally on green. The problem representation does not lead to intrinsically valuing urban green. Urban green is in the SOR seen as part of public space (I1, pp.1-2; SOR, 2017, p.101). Urban green is seen as adding (mainly societal) value, when it is weighed with other related domains (I2, pp.2-3; SOR, 2017, p.101). It is thought that this instrumental value and added value could be quantified in euros with the TEEB-stad tool (I2, pp.2-6). **Utrecht** takes with their problem representation the potential contribution of green for a healthy city, a climate resilient city, an attractive economic climate and healthy urbanization altogether for granted (AG, 2017, p.9). This results in a subjectification that urban green could solve multiple urban problems (AG, 2017, p.27). Urban green is instrumentally valued as our natural capital (AG, 2017, p.27). Seeing urban green as a possession of humans and for only human wellbeing leads to not intrinsically valuing urban green.

All three municipalities want to relate green to other domains and promote the instrumental value of green, but the three have different views on the aspect of weighing and viewing green as a solution and/ or problem. **Amersfoort** focuses more on weighing different ES/ themes/ values/ qualities of green (BL, 2017; GV, 2016). **Haarlem** focuses on weighing green with other aspects of public space and making the process of weighing quantifiable with the TEEB-stad tool (SOR, 2017, p.101). **Utrecht** sees all contributions of green together as a potential integrative solution, but gives less focus on the dilemma of weighing. **Amersfoort** claims that green could be a problem and a solution, depending on the wishes of people and ES combined for that location (GV, 2016; I8, p.10). **Haarlem** views green as something which could add societal value to a solution concerning public space, but this depends on the ambitions in that location (I2, pp.2-3; SOR, 2017). **Utrecht** claims as a solution that we could use our natural capital more optimally (AG, 2017, p.27).

In short, the subjectification of urban green of the different municipalities could be described as:

- **Amersfoort:** Urban green is related to themes/ values/ ES/ qualities which could be combined (as solutions) or could counteract each other (which represents problems) and therefore is strived for balanced exploitation of ES (BL, 2017, pp.8-13; GV, 2016, p.11).
- **Haarlem:** Urban green is part of public space and adds quantifiable (mainly societal) value (in euros with the TEEB-stad tool), when weighed with other related domains (I1, pp.1-2; I2, pp.2-3; SOR, 2017, p.101).
- **Utrecht:** Urban green is a potential integrative solution, when our natural capital is used optimally: in an efficient and multifunctional way for ecological, economic and social quality (AG, 2017, pp.6-27).

The identified left out problems are mentioned by the interviewed policy makers and/ or municipal officials. The following left out problems are identified**:**

- Answers and action points in policy are needed how blue and green help a city to become climate resilient, according to municipal officials. Amersfoort does not have an answer to the problem: 'When is the city climate resilient?', according to a municipal official of **Amersfoort** (I7, p.5). An overarching vision on climate adaptation including blue and green is missing, according to a municipal official of **Utrecht** (I4, pp.7-8). This is striking, because climate resilience is one of the goals of the AG (2017) of Utrecht and one of the chapters of the GV (2016) of Amersfoort.
- It needs to be clear what types of green are include as '(urban) green' in (the problem representations of) policies. According to a municipal official of **Haarlem,** the green structure map of Haarlem does not include the small patches of green as 'valuable' or as 'green' (I1, p.4). The rural area around the city for example also needs to be included in policy of **Amersfoort** about '(urban) green' according to interviewed policy makers (I5, p.7; I8, p.11).
- Without a green standard (*see chapter 4)* in policy, green is experienced in **Utrecht** to be the first to be cut in a design, according to a municipal official of Utrecht (I4, pp.4-5). The disappearance of (more) green (in the future) is actually not seen as a problem, when it remains a wish to increase the amount of green instead of choosing for a green standard, according to a municipal official of **Haarlem** (I2, pp.4-5).
- The problem representation of **Haarlem** leaves out the problem: 'How to use the values of green to increase the amount of green?', which is mentioned by a municipal official of Haarlem (I2, p.4).
- The problem left out is that building more and/ or higher has a max for the liveability of public space, according to a municipal official of **Utrecht** (I3, p.7). This relates to the policy concept 'healthy urbanization' as what should be taken into account.

The mentioned conflicts as effects of the problem representations are identified by the researcher. I identified the following conflicts in the selected policies in relation to urban green:

- Two conflicts are identified for **Amersfoort**. Firstly, that no concrete choices are made by only presenting lists of opportunities and dilemmas, referring to the GV (2016). Secondly, seeing urban green as something which is related to ES in the problem representation (GV, 2017, p.11) and at the same time relating urban green to different themes and values (BL, 2017, pp.8-11; GV, 2016), could be confusing and conflicting.
- The use of the word 'value' in relation to green in different forms in policy documents of the municipality of **Haarlem** and in way of talking is experienced as confusing (I1; I2; SOR, 2017, pp.44-141; SP, 2005, p.23).
- **Utrecht** does not pay attention to the fact that one quality of green could be used at the expense of (another quality of) green. Building more in green to intensify use (RS, 2016, p.30) could be seen as efficient green and a social quality of increasing meeting opportunities in relation to the idea of Nature Based Solutions (AG, 2017, p.6), but it reduces the amount of green.

In this chapter I have already referred to policy concepts in chapter 4. The reasoning behind this is that the identified problem representations, their identified origins and identified effects could gain meaning by presenting a frame of reference of background knowledge. Chapter 4 presents a quickscan of policy concepts relating to urban green and the implied problem representations (*see chapter 4)*. I have acknowledged that this overview presented in chapter 4 is incomplete. It is therefore striking that a lot of policy concepts of this overview are not identified in the selected policies. This means a lot of implied problem representations of these policy concepts could also not have been discussed among these selected municipalities.

In terms of values/ qualities/ themes/ ES in relation to urban green, all three municipalities currently give more attention to the instrumental value than the intrinsic value of urban green. This favour for

instrumental value I think could be explained by the focus on qualities of green, which reduces the focus on the quantity of green. **Utrech**t seems excited to solve several urban problems with green and that it has more values than only nature (conservation) (AG, 2017, p.27; I3, pp.5-6), but gives less attention to loss of nature due to planned developments of 'healthy urbanization' and the limits of efficient multifunctional green. **Amersfoort** focuses more on the quality of trees than on quantity of trees (I6, pp.3-4), but the question is if it is a disguised cut (GV, 2016, p.40). A municipal official of Amersfoort explains that they aim to plant more trees also in light of climate adaptation in the GV, but that in the BL is written down what is achievable in light of more developments (I6, pp.3-4). At the same time the municipal official mentions it is strange to propose more and more developments, but leave out more trees and therefore Amersfoort tries to keep the balance (I6, p.7). A municipal official of **Haarlem** claims the need to get started with how to use the values of green to increase the amount of green, which is not yet mentioned in policy (I2, p.4). The fact that other elements in public space such as parking have a standard and the lack of will of the city council to include a quantitative standard as m² green per dwelling in Haarlem (I2, pp.1-2; SOR, 2017, p.101) and Utrecht (I4; pp.4-5), could also describe how green is currently prioritised. The contribution of green to climate resilience is known by all municipalities, but the question remains: 'When is a city (fully) climate resilient?'(I4, p.8; I7, p.5). In my view, depending on the choice to prefer urban green over grey developments or not, this question stimulates or slows down ambitious development in climate resilience with the use of green. I personally think putting the intrinsic value of green first and the instrumental value second, which will result in investing in quality ánd quantity of green, will only ever happen if the vast majority of humans stops viewing themselves above nature *(see chapter 4 intrinsically valuing nature: as partner, participant or in harmony*).

Other policy concepts in relation to urban green which are left out in the most recent and/ or relevant municipal policies and that were included in the theoretical framework are: Green Urban Areas [GUA], Green Infrastructure [GI], Urban Green Infrastructure [UGI], garden city, indoor ecosystem services, nocturnal nature, ES in combination with 3P's of sustainability, biocultural diversity, mediated nature and ecological gentrification (*see table 4.0 in chapter 4*).

As a final note, an effect of unclearly naming the represented problems in relation to urban green in the selected policies is that the identified main problem representation per municipality, their origins and effects form a best estimate. The effect of this status-quo is that it is unclear what exactly the represented solutions of Amersfoort, Haarlem and Utrecht try to solve. In this way the proposed solutions could also not be easily checked if they fit to identified problems and causes and so if these policies are effective and comprehensive. Secondly, what is problematised in relation to urban green, what is represented as the cause(s) and what is presented as solution(s) leads to subjectification of urban green. The subjectification of urban green in the case of Amersfoort, Haarlem and Utrecht could be done unconsciously. Thirdly, unconsciously other problems (implied by policy concepts) and conflicts could be left out. The three elements 'the problem representations in policy', 'their origins' and 'their effects' are connected as a puzzle. However new insights could lead to changing 'the problem', which refers to the element of 'the origin of problem representations' and leads to another 'problem representation in policy' and other 'effects'. These three elements could therefore also change in the future as a cyclic iterative process as presented with the arrows in the conceptual model (*see figure 2.3 or 5.0A).*

6. Discussion

In this discussion I reflect on the theoretical framework (*section 6.1)*, the methodology (*section 6.2*) and the results (*section 6.3)* of my research.

6.1 Reflection on theoretical framework

In reflection on my theoretical framework, I reflect on my choice of a researcher to contribute to the paradigm of problem questioning, how I specified discourse, my sensitizing concepts of my conceptual model and how I dealt with defining urban green.

First of all, this research contributes to the paradigm of problem-questioning by means of its focus on problem representations in relation to urban green in policy and their origins and effects. In reflection on my positioning as a researcher, I take the importance of problem representations in policy for granted due to my education in 'planologie' (translated: the scientific view on spatial planning) at Utrecht University. According to Spit & Zoete (2009, pp.90-94) and Spit et al. (2012, pp.105-112), before a plan/ policy as a product is established, a planning process takes place in which the identification of the problem is key. The problem identification phase involves problem exploration, actor-analysis, problem analysis and 'het programma van eisen' (translated: program of requirements: preconditions for solutions per problem field). Problem representations are key, because proposed (partial) solution(s) need to solve or reduce the proposed (partial) problem(s):

"*In de fase van de probleem identificatie worden de problemen in beeld gebracht en ontrafeld. Veelal bestaat een groot probleem uit de combinatie van een aantal kleinere problemen. Een klein deel van het probleem is vaak eenvoudiger op te lossen dan het gehele probleem in één keer. Alle deeloplossingen samen moeten vervolgens het totale probleem oplossen of in ieder geval de problemen sterk afnemen. (Translated: In the identification problem phase, the problems are identified and unravelled. Often a major problem consists of the combination of a number of smaller problems. A small part of the problem is often easier to solve than the whole problem at once. All partial solutions together then have to solve the total problem or at least greatly reduce the problems.)"* (Spit et al. 2012, p.107).

In the problem identification phase of the planning process, problem representations are unravelled if these represent smaller problems, the main problem itself or represented solutions. In a later phase, proposed solutions are checked with the program of requirements to what extent these could solve or reduce which part of the identified main problem (Spit et al., 2012, p.107).

Secondly, I reflect how I specified discourse. This research is characterised as a critical discourse analysis. In reflection to my choice for discourse analysis, the difficulty with discourse analysis it that there is no consensus on how 'discourse' should be understood, which I discussed in my theoretical framework (Jørgensen & Phillips, 2002, p.1). With my research topic 'urban green in policy' in mind, I specified discourse analysis by means of Bacchi's 'What's the Problem Represented to be [WPR]-approach, because Bacchi focuses on the paradigm of problem-questioning and specifically on problem representations in policy (Bacchi, 2012, p.21). I divided the six questions of the WPR-approach into three elements: 'problem representations in policy', 'origins of problem representations' and 'effects of problem representations'. I chose this division, because these tree elements show resemblance to the description of discourse following Sharp & Richardson (2001, p.193): the three aspects 'text', 'systems of thought' and 'action'. Naturally, other researchers however could have a different view on what should be understood as a discourse, which leads to a different analysis and different research results. My approach helped me to think critically about how people view a topic (in this case urban green) and identify what is seen as problematic and the origins and effects of seeing that as problematic. Bacchi's work (2007; 2010; 2012) gave me insight into the importance of problem representations in policy. My approach of seeing discourse as consisting of problem representations, origins and effects (and underlying concepts), could inspire other researchers.

Thirdly, I reflect on my sensitizing concepts of my conceptual model. Under the three elements 'problem representations in policy', 'origins of problem representations' and 'effects of problem representations' I classified concepts based on literature (*see table 2.3)*. I look at these concepts as sensitizing concepts (Boeije et al., 2009, p.256), directing me towards relevant parts for generating and analysing my data. In order to identify the 'problem representations in policy' I focussed on separating: 'represented cause', 'represented problem' and 'represented solution'. I operationalised the 'origins of problem representations' into the concepts: 'knowledge', 'represented cause', 'power' and 'justifications'. I chose the following sensitizing concepts for the 'effects of problem representations': 'represented solution', 'left out problems', 'conflicts' and 'subjectification of domain studied (= urban green)'(*see also conceptual model in figure 2.3/ 5.0A)*. This led to my conceptual model (*see figure 2.3/ 5.0A)*, which could be used as a tool for policy makers and for further research about problem representations in policy. The sensitizing concepts, the interview questions and coding framework could be copied or adjusted for applications in future research concerning problem representations in policy (and the origins and effects of the problem representations) in relation to urban green or other topics in policy. My sensitizing concepts help to zoom in to for example interesting aspects of the effects of problem representations. With the concept of 'conflicts' I spotted lack of coherence between the represented problem, causes and solutions. The concepts 'left out problems' and 'justifications' help to question the approach of the policy (represented main problem, causes and solutions together). The concept of 'subjectification of urban green' helps to understand how in this case a municipality looks at urban green. I acknowledge that the concepts I used sometimes overlap, such as the concepts 'knowledge' and 'power' which are connected according to Foucault (1980). I however chose to separate them, because this increases understanding in the origins and effects of problem representations and their interrelationships. For example, the represented cause is naturally also based on knowledge, but not all important knowledge which led to the problem representation represents the cause of the problem. The concepts 'represented cause' and 'represented solution' are mentioned two times in the conceptual model, which shows how the represented problem, the represented cause and the represented solution are overlapping and are intertwined. The arrows in the conceptual model also show how the problem representations in policy, their effects and origins are intertwined. I think it is important for policy makers to recognise that these connections are essential for integral and effective policies, because it needs to be clear what is seen as problematic and what is the represented cause in order to check coherence and the effectiveness of the proposed solutions in policies. Next to the WPR-questions of Bacchi (2012, p.21) (*see section 2.2.3 Bacchi's WPR-approach*), I therefore would like to add the question 'What are the represented cause(s) and represented solution(s) in policy and how are these connected to the problem representation in policy?' for a critical approach for researchers and policy makers on problem representations in policy, their origins and effects. Bacchi mentions 'the represented cause' and 'the represented solution' more or less in her work (2007, pp.1-2; 2010, pp.2-3; 2012, p.21), but I would suggest to make this question more explicit and put it behind the second WPR-question: 'What presuppositions or assumptions underpin this representation of the 'problem'?' (Bacchi, 2012, p.21).

Fourthly, I reflect on how I dealt with defining urban green. On purpose, my theoretical framework and especially my conceptual model, has no pre-set definition of 'urban green'. I did not use a very distinctive and exclusive definition of what I meant with 'urban green', because I wanted to discover the visions on urban green adopted by the three municipalities Amersfoort, Haarlem and Utrecht. The quickscan about policy concepts relating to urban green (*see chapter 4)* provided me a background of different approaches towards urban green and the insight that different problem representations could be implied by the same policy concept. I therefore wanted to start with a quite open definition of urban green, but concrete enough to acquire relevant information during the interviews. At the start of interviews I mentioned seeing urban green as including all different types of plants and water (*see Interview questions in Appendix*), which influenced the interviewees. When analysing the selected policy documents, my vague definition led to reading all pages of the policy document to make sure I

did not miss synonyms. In addition, using sensitizing concepts also did not speed up the analysis, because in the end it is based on my interpretation and I did not choose to only search with 'ctrl f + a word'. This makes it a thorough analysis based on my background knowledge and interpretation of the data, which I imagine could have been slightly different if this research was done by somebody else. I decided to start open without using policy concepts and later reflect on the identified policy concepts, which led to having a more open mind to identify problem representations. This approach could be applied for further research with a focus on problem representations. Further research could also focus on for example how certain policy concepts relating to urban are implemented in policies, which could more easily be analysed with 'ctrl f + a policy concept'.

6.2 Reflection on methodology

The used methods for this is research are a document analysis and interviews for three case studies. My reflection on methodology is about my choice of case studies, the selection of policies and my decision on doing interviews and the selection of interviewees.

Three Dutch cities are selected for this research, based on my acquired background knowledge about their expected different approaches towards urban green in policy (*see 3.2.1 Case studies in chapter 3 Methodology)*. Selection of other cities, villages in the Netherlands or other countries would naturally have led to different results. Municipalities are located in different area with different people and therefore are unlikely to produce exactly the same municipal policies and problem representations. In order to identify similarities and larger trends between policies and problem representations in relation to urban green of different municipalities, more and/ or different municipalities (of other countries) could be included for further research. The time limit of this research reduced the amount of municipalities, policy documents and interviewees to be interviewed.

This research focuses on the most recent and/ or relevant policies in relation to urban green in order to give insight about the status-quo (*see societal objective in chapter 1)*. The advice of the contacted municipal officials, the accessibility of the policy documents, time limits and my own judgement of the relevance of the content of the document influenced my choice which documents to select as 'the most recent and/ or relevant policies in relation to urban green'. Time does not stop and new policies in relation to urban green are in the making while I am finishing my research, which changes also the perspective on what counts as 'the most recent and/ or relevant policies in relation to urban green'. For further research the newest policies in relation to urban green could be analysed for the same cities in order to remain updated about the status-quo. However, older policies might still be influential for how policy makers think about urban green and are therefore relevant to clarify for the origins of problem representations in policy. Further research could also focus on the development of problem representations in relation to urban green in policy over a period of time, to show how views towards urban green have manifested or changed over time.

This MSc Thesis focuses first of all on problem representations in relation to urban green in policy, but because this research also aimed to identify the origins and effects of these problem representations the combination of doing interviews and a policy document analysis is of great importance. This is because the experienced origins and effects of these problem representations are not all mentioned in policy documents. Secondly, the interviews with the relevant municipal officials/ policy makers revealed which parts of the policy documents are considered to be important. The municipal officials/ policy makers interviewed are selected based on accessibility and their involvement and knowledge about: the content of the policy, the process before the establishment of the policy and/ or projects resulting from to the selected policy documents. During the interviews it became clear if the interviewee had knowledge about the policies itself, origins of policies or projects/ policies resulting from a policy. Because the problem representation cannot be disconnected from its effects and origins, the puzzle became more complex for me when I experienced that the selected policies have no clear focus on 'the problems'. This resulted in a deeper search of combining quotes of text parts from policy documents and interview

transcripts in order to construct 'the main problem represented to be' per municipality. I experienced that the municipal officials and policymakers I interviewed found it hard to answer what the main problem in relation to urban green was that the municipality tried to solve. However, all three elements are essential in this research and the interviews could steer my interpretation of the documents by highlighting certain parts. In further research an attempt could be made to interview more municipal officials who were in some way connected to the selected policies, when the research is carried out in a wider time span than this research. Extra interviews with relevant municipal officials could result in new identified problem representations, origins of the problem representations and effects of the problem representations.

6.3 Reflection on results

In reflection on my results, I reflect on the result that the represented problems in relation to urban green are not clearly named in the case studies. I reflect on the effect of incorporating (empty) policy concepts in the represented problem, cause and/ or solution. Lastly, I reflect on combining policy concepts in order to come up with more detailed descriptions of the represented problem, cause and/ or solution for more integrated and effective future policies, including the Environmental Visions.

The results (*see section 5.1-5.3)* show that I identified the main problem represented to be for the three municipalities based on combining text parts of policy documents and interview transcripts. Because the selected most recent and relevant policies do not mention the word '(main) problem', it could then be questioned what the used synonyms for 'the problem' are or that 'the problem' is not clearly named at all. My selection of text parts of the policy documents was steered by what the interviewees named as problematic and my own background knowledge. I experienced that the interviewed municipal officials found it hard to answer 'What is the main problem in relation to urban green the municipality tries to tackle?' A municipal official explained that the policy is more focus on portraying the final image instead of naming the problem and the origins in the policy (I2, p.4). Municipalities may have consciously opted not to mention problem representations in policy or they do so unconsciously. But if the focus of policies is more on problem-solving instead of problem-questioning, it is still important to know what is proposed to be solved in my opinion. I experienced the analysis as a puzzle: trying to connect all the pieces and I identified also conflicts which show the flaws between the represented solutions, causes and problems. I would therefore recommend policymakers to name the identified problem(s) and its identified causes clearly in policy, next to the proposed solutions, because it is a check to see if the proposed solutions could really solve the main problem(s) identified. I believe this leads to more integrated and effective policies, which is also aimed for concerning the future Environmental Visions with the upcoming Environment & Planning Law.

Furthermore, the results show that the municipalities of Amersfoort, Haarlem and Utrecht make use of various policy concepts in their policies which influence what is represented as the problem, the cause and the solution, which all together also affect their subjectification of urban green. The policy concept of ES is for example identified in the problem representation of Amersfoort. The represented cause and problem of Haarlem mentions 'the value of green' which refers to the represented solution of further developing the TEEB-stad tool, which is based on the policy concept 'The Economics of Ecosystems and Biodiversity' [TEEB]. Utrecht adopts the concept of Nature Based Solutions as part of their represented solution. The overview of table 4.0 (*see chapter 4 - Quickscan about policy concepts relating to urban green and the implied problem representations*) showed that problems were framed differently even if the same policy concept was adopted. Policy makers need to be aware that a policy concept could be interpreted differently and therefore policy makers could formulate different problem representations, represented causes, represented solutions, while using the same policy concepts relating to urban green.

Moreover, policymakers need to be aware that if the interpretation of a policy concept in the problem representation, represented cause and/ or represented solution remains unclear, decisions for

implementation of the policy also remain unclear. The policy concept of 'healthy urbanization' of the municipality of Utrecht is an evident example, which is explained in the Spatial Strategy [RS] (2016) and the Updated Green Structure Plan [AG] (2017) in a way it can mean almost anything (*see section 5.3 concept 'justification')*. Empty policy concepts such as 'healthy urbanization' which can mean almost anything could hide particular choices which have an effect on urban green. Rosol et al. (2017, p.1711), Chekker (2011, pp.211-212) and Pearsall (2012, pp.1013-1024) also warn and emphasize how a similarly vague concept of sustainability could be misused. Rosol et al. (2017, p.1711) criticise policy and implementation in which green is only promoted symbolically under the concept of sustainability in the form of stimulating greening projects only on a small level and in certain sectors. The motivation behind these small or selective green contributions are about being able to promote the term 'green(est) city' for marketing purposes and serve the overarching goal of economic growth instead of environmental improvement as the main goal according to Rosol et al. (2017, p.1712). Problems left out unproblematic mentioned by Rosol et al. are that first of all, small selective green contributions, such as only investing in pilot projects and innovation hubs, could lead to unevenly investing in urban green spaces and ecological gentrification (*see chapter 4 Quickscan, the concept of ecological gentrification).* A second problem left unproblematic is that people forget that the effects of environmental problems happen on larger scales, so the question is why other areas are excluded to become greener. The third problem left unproblematic is that a pilot project in a certain area could not always be replicated easily to other areas with a different context (Rosol et al., 2017, p.1713). In reflection to the first identified left out problem, ecological gentrification processes show how the social justice aspect of sustainability is forgotten, when high-end green developments lead to the displacement of low income residents (Chekker, 2011, p.212; Pears, 2012, pp.1013-1024). The social justice aspect of sustainability in my interpretation refers to the definition of sustainability following the three P's: People (social justice), Planet (ecological justice) and Profit (economic justice). The policy concept of ES in combination with the 3P's of sustainability (*see chapter 1 and 4)* is by Kistenkas et al. (2017, pp.101-139) interpreted as weighing social, economic and ecological interests, but on the other hand by Lyytimäki & Petersen (2014, pp.50-51) interpreted as finding win-win situations by integrating the economic, social and ecological dimension. I interpret the idea of win-win as also hidden economic thinking of unlimited growth. A focus on unlimited growth means in my interpretation that economic justice is given more weight compared to the other two: social justice and ecological justice. Furthermore, no focus on the intrinsic value of green in my interpretations means forgetting the component of ecological justice.

In my view a lot of policy concepts in relation to urban green could be combined together in order to come up with a more detailed question of what is represented as the problem and more detailed descriptions of the 'cause' and 'solution' in a policy. I would suggest to combine for example ES, 3P's of sustainability, the instrumental and intrinsic value of nature together into descriptions acknowledging that humans are part of nature and strive towards sustainable development in terms of balancing economic, social and ecological interests. Rosol et al. (2017, pp.1714-1715) suggest to reframe problem representations to bring about change for sustainability by resisting questions about: 'How to better implement green ideas?' and reframe these questions into: 'How to challenge and change the system of focussing on unlimited growth?'. The New Zealand Resource Management Act 1991 [RMA] acknowledges in the actual text and jurisprudence of article 5 of the RMA the following definition for 'sustainable development' (Kistenkas et al., 2017, pp.138-139):

"Enabling communities to provide for their social, economic and cultural wellbeing, while protecting the life-supporting capacity of the biosphere, and sustaining resources for the foreseeable needs of future generations." (Kistenkas et al., 2017, p.139).

Policy makers preparing for the Dutch Environment & Planning Act could also include a description of what is meant with 'sustainable development', for a more integrated effective Environmental Visions (and plans). Reasoning that an empty policy concept could be interpreted in too many ways and later decisions therefore cannot be checked.

7. Conclusion

In this conclusion of the research, I conclude on the three sub-question of this research (*see section 7.1)*, and the main research question (*see section 7.2)* based on the result chapter (*see chapter 5 Results*). Based on the discussion (*see chapter 6 Discussion*) and the societal and scientific objective of this research (*see section 1.3*), I end with my recommendations for future research and practical application (*see section 7.3).*

7.1 Sub-questions of research in conclusion

The sub-questions of this research are:

1. *What is the problem represented to be in relation to urban green in the most recent and/ or relevant municipal policies of the Dutch cities Amersfoort, Haarlem and Utrecht?*
2. *How have these problem representations in relation to urban green come about in these policies? (what are their origins)*
3. *What are the effects for urban green of these problem representations in these policies?*

The three sub-question are about the problem representations, the origins of the problem representations and the effects of the problem representations in relation to urban green in policies. The most recent and/ or relevant policies in relation to urban green are selected for three municipalities. These are the Dutch cities of Amersfoort, Haarlem and Utrecht. The most relevant and accessible policy makers and/ or municipal officials of these municipalities are interviewed, who have been involved in the process before, the writing of and/ or the resulting projects of the selected policies. An overview of the analysed material and the used abbreviations for the selected policies and interviewees is presented in table 3.3A *(see section 3.3 of chapter 3 Methodology*). The results of all three sub-questions are summarized below per municipality. Subsequently, the sub-questions are answered separately.

Amersfoort

1. **Main problem represented to be =** How to balance exploitation of ecosystem services [ES] of green and water, while taking dilemmas and opportunities into account? (Groenvisie [GV], 2016, p.11).
2. **Origin**:
   - ***Knowledge*** = ES are essential for humans and that there are ES which could be combined and ES which could counteract each other (GV, 2016, pp.9-11).
   - ***Cause represented to be*** **=** Maximising exploitation of one ES could lead to the expense of another ES, nuisance, extra costs and harm interest groups elsewhere or later (I8, p.10; GV, 2016, p.11).
   - ***Power*** = The City Council set the framework for the GV (2016, p.6). The project group of the GV came up with six themes in relation to green, the idea of making lists of dilemmas and opportunities (I6, p.3; I8, p.5).
   - ***Justification*** = The six themes of the GV (2016) and the six values of trees in the later established Tree Guide (Bomenleiddraad [BL] 2017, pp.8-11) are justified as what needs to be balanced. Two themes of the GV, 'self-management' and 'trees' are actually no ES, but part of the framework set by the CC (GV, 2016, p.6).
3. **Effects:**
   - ***Solution represented to be*** **=** The GV represents the collected material of the citizens and is seen as a testing framework with lists of dilemmas, lists of ideas for solutions and role division per theme (GV, 2016, p.6; I8, p.6). The Board of the Mayor and Aldermen came up with five priorities for elaboration plans of the GV (I8, p.6): establishing a Tree Guide (BL, 2017), Main Green Structure Map and Compensation Plan, and stimulating self-management and 'Het Groene Huis' as communication and meeting centre (BL, 2017, p.3).

In the recently established BL the choice is made to focus more on qualitative trees on the right spot which provide more ES compared to more quantity of small trees which cannot grow (I6, pp.3-4).

- ***Problems left out*** **=** The ring/ rural area around the city is not included in the GV (I5, p.7; I8, p.11). The question remains: when is a city (fully) climate resilient? (I7, p.5).
- ***Conflicts*** **=** The problem representation of the GV still applies for (the development of) the elaboration plans, because the GV as testing framework does not give concrete choices. The five priorities of elaboration plans do not clearly correspond with the six themes of the GV.
- ***Subjectification of urban green*** **=** Urban green is seen as something which is related to themes/ values/ ES which could be combined (as solutions) or could counteract each other (which represents problems) and therefore is strived for balanced exploitation of ES (GV, 2016, p.11). A dilemma of the GV mentioned that preferring quality over quantity of trees could lead to a disguised cut, which is what is chosen for in the BL (BL, 2017, p.4; GV, 2016, p.40; I6, pp.3-4).

Haarlem

1. **Main problem represented to be =** How to take the value of green better into account in decision-making of (re)development projects? (I2, p.1; Structuurvisie Openbare Ruimte [SOR], 2017, p.101)
2. **Origin**:
   - ***Knowledge*** = The municipality of Haarlem has been taken part in a national project to develop the TEEB-stad tool, which provides knowledge about calculating the value of green and water (Ecologisch Beleid [EB], 2013, pp.10-15; I2, p.6; RIVM & Ministerie van Volksgezondheid, welzijn & sport [Ministerie van VWS], 2018, p.1).
   - ***Cause represented to be*** **=** The lack of attention for the value(s) of green in decision making processes of (re)development projects (I1, p.2; SOR, 2017, p.101).
   - ***Power*** = The problem representation represents a question from the CC. The CC rejected the Green Structure Plan [GSP] (2009) which proposed a green standard and proposed to develop an integrated vision on public space instead. The Structure Vision on Public Space [SOR], established in December 2017, mentions it remains a central question in relation to green (I2, pp.1-2; GSP, 2009, pp.7-11; SOR, 2017, p.101).
   - ***Justification*** = Despite the difficult process and long development of the TEEB-stad tool, the municipality continues to take part in the project, because 'it [TEEB] has simply not yet been fully developed' (I1, p.4).
3. **Effects:**
   - ***Solution represented to be*** **=** The Weighing Method of the SOR in which the green structure map is prioritised (SOR, 2017, pp.37-38). Stimulating further development of the TEEB-stad tool and other research to create criteria or guidelines to better weigh green with other related domains in decision making (I2, pp.1-6; SOR, 2017, p.101).
   - ***Problems left out*** **=** Small patches of green are not included in the green structure map of the SOR (I1, p.4). The disappearance of (more) green (in the future) is actually not seen as a real problem by the CC compared to other problems, because it remains a wish to develop more green instead of choosing for a hard starting point in policy (I2, pp.4-5). Left out in policy is how to use the values of green to increase the amount of green (I2, p.4).
   - ***Conflicts*** **=** The use of the word 'value' in relation to green in different forms (I1; I2; SOR, 2017, pp.44-141; Structure Plan [SP], 2005, p.23).
   - ***Subjectification of urban green*** **=** Urban green is seen as part of public space and adds quantifiable (mainly societal) value (in euros with the TEEB-stad tool), when weighed with other related domains (I1, pp.1-2; I2, pp.2-3; SOR, 2017, p.101).

Utrecht

1. **Main problem represented to be =** How to use the potentials of green, blue and soil for a climate resilient and healthy city (= an attractive economic climate = healthy urbanization)? (I3, p.2; I4, p.3). The updated green structure plan of the municipality of Utrecht (Actualisatie Groenstructuurplan [AG], 2017) presents the main identified problem representation without the 'how' as the starting point of the policy.
2. **Origin**:
   - ***Knowledge*** = The potential contribution of green to health and becoming climate resilient, which together contribute to an attractive economic climate (AG, 2017, p.9).
   - ***Cause represented to be*** **=** First of all, population growth which will be facilitated by building within city boundaries in a sustainable and healthy way (=healthy urbanization?). Secondly, floods, heat stress and droughts which need climate adaptation measures. Thirdly, the changing functions of green and therefore better designed green is needed (AG, 2017, pp.6-10).
   - ***Power*** = The Board of Mayor and Aldermen introduced 'healthy urbanization' as central for the Spatial Strategy (2016) and spatial course in the Environmental Vision (2017) of Utrecht (De koers - Omgevingsvisie [OV], 2017; Ruimtelijke Strategie [RS], 2016, p.5). The RS as the spatial course, projects with organisations and research institutes and municipal departments reading research led to focussing on the potentials of green for health and climate adaptation (I3, pp.5-6). The idea of healthy urbanization and the potential contribution of green to health and climate adaptation led to updating the green structure plan (AG, 2017, pp.6-10; I3, p.2).
   - ***Justification*** = What 'healthy urbanization' exactly means remains vague, but this understanding is important for what purpose green is used for.
3. **Effects:**
   - ***Solution represented to be*** **=** Nature Based Solutions, which is efficient and multifunctional green for social, ecological and economic quality (AG, 2017, p.6; I3, p.5). The AG aims for broad cooperation to jointly achieve urban goals while taking five goals for green into account, to adjust a vision map, to yearly develop an investment and implementation program for green projects and it presents a weighing framework with criteria (AG, 2017, pp.7-34; I3, pp.2-9).
   - ***Problems left out*** **=** Without a green standard, green is experienced to be the first thing to be cut in a design (I4, pp.4-5). Building more and/ or higher has a max for the liveability of public space (I3, p.7). An overarching vision on climate adaptation including blue and green is missing (I4, pp.7-8).
   - ***Conflicts*** **=** One or two of the three qualities could be preferred over another at the expense of (a quality of) green. Building more in green could be justified by intensifying use and increasing meeting opportunities (RS, 2016, p.30).
   - ***Subjectification of urban green*** **=** Urban green as our national capital and when used more optimally could potentially solve multiple urban problems (AG, 2017, p.27).

The first sub-question of this research in conclusion: *What is the problem represented to be in relation to urban green in the most recent and/ or relevant municipal policies of the Dutch cities Amersfoort, Haarlem and Utrecht?*

The problem representations of the three selected cities in short consist of: 'How + represented solution?'. The represented solutions within the problem representation can be connected to policy concepts relating to urban green. The problem representation of **Amersfoort** in the GV (2016) goes beyond only instrumentally valuing green and towards intrinsically valuing green by indirectly seeing

balanced exploitation of ES as a solution. At the same time ecosystem disservices are acknowledged by also wanting to take dilemmas and opportunities into account. The problem representation of **Haarlem** in the SOR (2017) indirectly sees decision making processes of (re)development processes as the place for a solution and directs towards the policy concept of TEEB by focussing on 'the value' of green in monetary terms. The problem representation of **Utrecht** in the AG (2017) clearly takes the instrumental value of green for granted. Their problem representation indirectly portrays green as a potential solution for a climate resilient and healthy city, for an attractive economic climate and for healthy urbanization all at the same time.

The second sub-question of this research in conclusion: *How have these problem representations in relation to urban green come about in these policies? (what are their origins)*

The problem representations in these policies originate from acquired knowledge, represented causes, power and justifications. For the municipality of **Amersfoort**, the knowledge that ES are essential for humans and that maximally exploiting one ES by humans causes harm to other ES leads to the aspect of the problem representation 'how to balance exploitation of ES'. The knowledge that some ES could counteract each other and some ES could be combined refers to the last part of the problem representation 'taking dilemmas and opportunities into account' (GV, 2016, pp.9-11). The project group of the GV (2016) influenced this last part of problem representation by their decision to make lists of dilemmas and opportunities per theme in the GV (I6, p.3; I8, p.5). For **Haarlem**, the problem representation represents a question from the city council (I2, pp.1-2). The part of the problem representation 'the value' is based on the knowledge of calculating the monetary value with the TEEB-stad tool (EB, 2013, pp.10-15; I2, p.6; RIVM & Ministerie VWS, 2018, p.1). The aspect 'take better into account' of the problem representation refers to the represented cause 'lack of attention for the value of green in decision making processes of (re)development projects' (I1, p.2; SOR, 2017, p.101). This aspect of the problem representation could also refer to the long participation of the municipality in the project of the TEEB-stad tool and that further development is promoted. This long and difficult process is justified (I1, p.4). The problem representation of **Utrecht** is the starting point for the AG and is based on the knowledge of the potential contribution of green (AG, 2017, p.9), which derives from projects with organisations and research institutes, from municipal departments reading research and from the RS as spatial course (I3, pp. 5-6). The three represented causes in the AG also relate to aspects of the problem representation 'how to use green', 'for a climate resilient city' and 'for healthy city/ urbanization' (2017, pp.6-10). The Board of Mayor and Aldermen influenced the problem representation by introducing healthy urbanization as central for the RS and OV of Utrecht, which was applied to the AG (OV, 2017; RS, 2016, p.5). However, what is meant by healthy urbanization remains vague in the RS, OV and in the AG and therefore also remains unclear for the problem representation of Utrecht.

The third sub-question of this research in conclusion: *What are the effects for urban green of these problem representations in these policies?*

The represented solutions, left out problems, conflicts and subjectification of urban green are seen as the effects of the problem representations. **Amersfoort** sees the GV as testing framework (GV, 2016, p.6) and the five prioritised elaboration plants (I8, p.6) as solutions. The GV gives with it lists of dilemmas, ideas for solutions and role divisions (GV, 2016) no concrete choices and therefore the problem representation still applies for the development of the elaboration plans. This conflict is an effect of the problem representation, because it could be questioned when to stop 'taking dilemmas and opportunities into account'. In the first established elaboration plan, the Tree Guide (BL, 2017), the choice is made to focus more on qualitative trees on the right spot, which provide more ES compared to more quantity of small trees which cannot grow (I6, pp.3-4). This choice/ represented solution relates to the policy concepts instrumental value, ES and share of urban green in relation to ES. Why the municipality increases quality of trees and only strives to increase the quantity of trees (I6, pp.3-7), explains that trees are valued to a small extent intrinsically, but not fully as humans in harmony with nature. The problem representation leads to the subjectification of urban green that balanced exploitation

of ES is what needs to be strived for (GV, 2016, p.11). Seeing urban green as something which is related to ES in the problem representation (GV, 2017, p.11), themes in the GV(2016) and values in the BL(2017, pp.8-11), is confusing and conflicting. The aspect of the problem representation 'taking dilemmas and opportunities into account' is reflected in the view that these ES/ themes/ values of urban green could be combined (as solutions) or could counteract each other (which represents problems) (GV, 2016, p.11). Amersfoort sees urban green also as a problem, which relates to the policy concept of ecosystem disservices. The problem representation does not directly include the problems: 'When is the city climate resilient?' (I7, p.5) and 'What type of green (also rural area?) needs to be included?' (I5, p.7; I8, p.11).

For **Haarlem**, the aspect of the problem representation 'the value of green' refers to further development of the TEEB-stad tool as solution (SOR, 2017, p.101). Conflictingly, the word 'value' in relation to green is used differently in the interviews (I1;I2), in the SOR (2017, pp.44-141) and the SP (2005, p.23). This leads to seeing the Weighing Method for decision making about developments in public space in which 'valuable green' on a green structure plan is prioritised also as a represented solution (SOR, 2017, pp.37-44). Furthermore, a third represented solution could then be included: stimulating other research focussed towards developing criteria to weigh green better in decision making of (re)development projects (I2, pp.1-6; SOR, 2017, p.101). The aspect of the problem representation: 'how to take the value of green better into account' shows how green could be included, so the focus is not totally on green. The problem representation does not lead to intrinsically valuing urban green. Urban green is in the SOR seen as part of public space (I1, pp.1-2; SOR, 2017, p.101). Urban green is seen as adding (mainly societal) value, when it is weighed with other related domains (I2, pp.2-3; SOR, 2017, p.101). It is thought that this instrumental value and added value could be quantified in euros with the TEEB-stad tool (I2, pp.2-6). According to a municipal official of Haarlem: the disappearance of (more) green (in the future) is actually not seen as a problem by the CC, because it remains a wish instead of choosing for a green standard (I2, pp.4-5). The problem representation also leaves out the problems: 'How to use the values of green to increase the amount of green?' (I2, p.4) and 'How to include the small patches of green as 'valuable' or as 'green'?' (I1, p.4).

Utrecht takes with the problem representation the potential contribution of green for a healthy city, a climate resilient city, an attractive economic climate and healthy urbanization altogether for granted (AG, 2017, p.9). This results in a subjectification that urban green could solve multiple urban problems (AG, 2017, p.27). Urban green is instrumentally valued as our natural capital (AG, 2017, p.27) and therefore urban green is not also intrinsically valued. In the view of Utrecht, urban green becomes a solution, a Nature Based Solution, when it is optimally used: in an efficient and multifunctional way for social, ecological and economic quality (AG, 2017, p.6). A left out conflict is that one quality could be used at the expense of (another quality of) green. Building more in green to intensify use, which could be seen as efficient green and a social quality of increasing meeting opportunities, is justified in the RS (2016, p.30), but reduces the amount of green. The problem is also left out that building more and/ or higher has a max for the liveability of public space (I3, p.7). The AG presents a weighing framework with criteria and aims for broad cooperation to jointly achieve urban goals while taking five goals for green into account, to adjust a vision map and to yearly develop an investment and implementation program for green projects (AG, 2017, pp.7-34; I3, pp.2-9). Nevertheless, another problem left out in the AG according to a municipal official of Utrecht is that without a green standard, green is experienced to be the first to be cut in a design (I4, pp.4-5). Lastly, the problem representation refers to becoming a climate resilient city, but an overarching vision on climate adaptation including blue and green is still missing (I4, pp.7-8).

7.2 Main research question in conclusion

The main question of this research is: *How are problems in relation to urban green represented in the most recent and/ or relevant municipal policies of the Dutch cities Amersfoort, Haarlem & Utrecht and what are the origins and effects of these problem representations?*

An important finding of this research is that the main problems in relation to urban green do not have a prominent place and are in a way hidden in the identified most recent and relevant policy documents of the selected cities, which are the 'Groenvisie' [GV] (2016) for Amersfoort, the 'Structuurvisie Openbare Ruimte' [SOR] (2017) for Haarlem and the 'Actualisatie Groenstructuurplan' [AG] (2017) for Utrecht. I combined text parts of these policies and interview transcripts in order to reveal the main problem representations per municipality. Notable is that the word 'problem' did not appear in these selected text parts. The identified main problem represented to be for Amersfoort, Haarlem and Utrecht all have the following same structure: 'How + represented solution?'. An explanation for this structure is that policies are seen as a solution in itself and present how to get to presented solutions. Policies are more focused on the final image, than naming the problem and the origins according to a municipal official (I2, p.4).

I identified the origins of these problem representations by focussing on acquired knowledge, represented causes, power and justifications. The information revealed with these four sensitizing concepts are mentioned in the selected policies in relation to urban green and/ or mentioned by the interviewed municipal officials and/ or policy makers. These interviewees have been involved in the process before the writing of the selected policies, the writing itself of the selected policies and/ or the resulting projects of the selected policies. Elements of the problem representation of **Amersfoort** are based on knowledge and has familiarity with the policy concepts: ES, ecosystem disservices, instrumental and intrinsic value of nature (GV, 2016, pp.9-11). Elements of the problem representation of **Haarlem** are based on knowledge about The Economics of Ecosystems and Biodiversity [TEEB] (EB, 2013, pp.10-15; I2, p.6; RIVM & Ministerie van VWS, 2018, p.1). Elements of the problem representation of **Utrecht** are based on knowledge about the potentials of green (I3, pp.5-6) and has familiarity with the policy concept of the instrumental value of green. The represented causes of the three cities could also be related to parts of the problem representations. Some elements of the problem representations are identified to be influenced by the power of people, policies, research, projects and used concepts. Justifications are made about policy concepts used in the selected policies in relation to urban green which could lead to questioning the problem representation. I refer to the previous section for more details (*see 7.1 sub-questions in conclusion).*

In this research, I operationalised the represented solutions, subjectification of urban green, left out problems and conflicts as the effects for urban green of the problem representations. I identified the effects based on what is mentioned in the selected most recent and/ or relevant policies in relation to urban green and what is mentioned by the interviewed relevant policy makers and/ or municipal officials. The municipalities Amersfoort, Utrecht and Haarlem came up with the following represented solutions to urban green at the level of an entire policy:

- A policy named 'Groenvisie', representing the collected material of the citizens (I8, p.6), as testing framework with lists of dilemmas, ideas for solutions and role divisions for six themes relating to green, (GV, 2016; I8, p.6) for five prioritised elaboration plans (BL, 2017, p.3). ***(Amersfoort)***
- An integrated policy 'Structuurvisie Openbare Ruimte' with a Weighing Method for decision making about developments in public space. The green structure map, which shows the 'valuable' green areas to be protected and strengthened, is seen as first priority in the Weighing Method at the request of citizens (SOR, 2017, pp.37-44). The green structure map refers to the policy concepts of green structures. ***(Haarlem)***

- An updated policy called ‘Actualisatie Groenstructuurplan’ aims for broad cooperation to jointly achieve urban goals while taking five goals for green into account, a weighing framework with criteria, to adjust a vision map and to yearly develop an investment and implementation program for green projects. The five goals are: ‘more and better green within the city’, ‘faster outside’, ‘more green surrounding the city’, ‘healthy urbanization’ and ‘climate adaptation’ (AG, 2017, pp.7-34; I3, pp.2-9). The name of the policy ‘green structure plan’ also refers to the policy concepts of green structures. **(*Utrecht)***

At the level of measures within the policies, the represented solutions to urban green are:

- The first established elaboration plan of the GV: the BL (2017) focuses more on qualitative trees on the right sport, which provide more ES compared to more quantity of small trees which cannot grow (I6, pp.3-4). This represented solution relates to the policy concepts instrumental value, ES and share of urban green in relation to ES. The municipality also, but only, strives to increase the quantity of trees (I6, pp.3-7), which refers to a small level of intrinsically valuing trees. **(*Amersfoort)***
- Further development of the TEEB-stad tool (SOR, 2017, p.101). Furthermore, stimulating other research focussed towards developing criteria to weigh green better in decision making of (re)development projects (I2, pp.1-6; SOR, 2017, p.101). ***(Haarlem)***
- Urban green becomes a solution, a Nature Based Solution, when it is optimally used: in an efficient and multifunctional way for social, ecological and economic quality (AG, 2017, p.6). ***(Utrecht)***

The subjectification of urban green of the three cities:

- All three municipalities mention different types of urban green in the most recent and relevant policies: including water, green and soil as ‘green’, but also reducing to ‘green’ in use of words (AG, 2017; GV, 2016; SOR, 2017), see it as a green and blue structure (AG, 2017, p.10; GV, 2016, p.5; SOR, 2017, p.38) and have separate attention for trees (BL, 2017; I1, p.2; OV, 2017). These different types are not all included in the identified problem representations of the policies, but the importance of the problem representations in these policy is questioned earlier. All three municipalities want to relate green to other domains and promote the instrumental value of green, but the three have different views on the aspect of weighing and viewing green as a solution and/ or problem. The identified subjectification of urban green in the most recent and relevant policies in relation to urban green per municipality is:
    - As a potential integrative solution to urban problems, when it is used in an efficient and multifunctional way for social, economic and ecological quality (AG, 2017) **(*Utrecht*)**.
    - As potentially adding (quantifiable) value to a solution in public space, when weighed with other domains of public space (SOR, 2017) ***(Haarlem*)**.
    - As a potential problem and potential solution, depending on weighed ES/ themes/ values of green and strived is for balanced exploitation of ES (BL, 2017; GV, 2016) **(*Amersfoort*)**.

The represented solutions for urban green I identified partly fit to the identified problem representations in policy, because the left out problems mentioned by the interviewees and the justifications and conflicts I identified show flaws between the connection to the represented problem and the represented solutions. Left out problems concerning urban green according to the interviewed municipal officials and/ or policymakers, the conflicts I identified concerning urban green in the selected policies and left out implied problem representations of policy concepts relating to urban green are:

- Left out problems identified by interviewees:
    - Answers and action points in policy are needed how blue and green together help a city to become climate resilient (I4, pp.7-8; I7, p.5).

    - Making clear what to include as '(urban) green' in (the problem representation of) policy: including small patches of green (I1, p.4), the ring/ rural area around the city (I5, p.7; I8, p.11).
    - Building more and/ or higher has a max for the liveability of public space (I3, p.7).
    - Without a green standard in policy, green is experienced to be the first to be cut in a design (I4, pp.4-5). The disappearance of (more) green (in the future) is actually not seen as a problem, when it remains a wish to increase the amount of green instead of choosing for a green standard (I2, pp.4-5).
    - How to use the values of green to increase the amount of green (I2, p.4).
- Conflicts identified by the researcher:
    - Be aware that no concrete choices are made by only presenting lists of opportunities and dilemmas in policy (referring to the GV (2016)).
    - One quality of green could be used at the expense of (another quality of) green. Building more in green to intensify use (RS, 2016, p.30) could be seen as efficient green and a social quality of increasing meeting opportunities, but it reduces the amount of green.
    - Using the word 'value' in relation to green in different forms in policy documents and in way of talking is confusing (I1; I2; SOR, 2017, pp.44-141; SP, 2005, p.23). Be aware that seeing urban green as something which is related to ES in the problem representation (GV, 2017, p.11) and at the same time relating urban green to different themes and values (BL, 2017, pp.8-11; GV, 2016), could be confusing and conflicting.
- Left out implied problem representations of policy concepts relating to urban green:
    - The importance of investing in improving the quality ánd quantity of green, by preferring the intrinsic value of green over the instrumental value, because humans view themselves as being a partner, participant or in harmony with nature instead of above nature (*see instrumental and intrinsic value of nature in chapter 4 quickscan)*.
    - Other implied problem representations of policy concepts (*see chapter 4 quickscan)*:
        - Green Urban Areas [GUA]
        - Green Infrastructure [GI]
        - Urban Green Infrastructure [UGI]
        - Garden city
        - Indoor ecosystem services
        - Nocturnal nature
        - ES in combination with 3P's of sustainability
        - Biocultural diversity
        - Mediated nature
        - Ecological gentrification

Concludingly, an effect of not clearly naming the represented problems in relation to urban green in the selected policies is that the identified main problem representation per municipality, their origins and effects form a best estimate of the puzzle. These three elements are connected as a puzzle, but these three elements could also change in the future as a cyclic iterative process as presented with the arrows in the conceptual model (*see figure 2.3 or 5.0A).* The effect of this status-quo is that it is unclear what exactly the represented solutions of Amersfoort, Haarlem and Utrecht try to solve. In this way the proposed solutions could also not be easily checked if they fit to identified problems and causes and so if these policies are effective and comprehensive. Other effects are that subjectification of urban green could be done unconsciously, next to unconsciously leaving out other problems (implied by policy concepts) and conflicts.

7.3 Recommendations for future research and practical application

For future research, the following is recommended in relation to the scientific objective: *to better understand problem representations in relation to urban green in policies and the origins and effects of these problem representations:*

1. Contribute to the problem-questioning paradigm. Get inspired by for example Bacchi's work (2007; 2010; 2012), my conceptual model (*see figure 2.3/ 5.0A)* and my approach of combining a document-analysis with interviews.
2. My conceptual model could be used for further research about discourse. The sensitizing concepts, the interview questions and coding framework could be copied or adjusted for applications in future research concerning problem representations in policy (and the origins and effects of the problem representations) in relation to urban green or other topics in policy.
3. I recommend to add my question 'What are the represented cause and represented solution in policy and how are these connected to the problem representation in policy?' behind the second WPR-question of Bacchi (2012, p.21): 'What presuppositions or assumptions underpin this representation of the 'problem'?*'* (*see section 2.2.3 Bacchi's WPR-approach*). This additional question makes the interconnectedness of 'the represented cause' , the 'represented problem' and 'the represented solution' more explicit, which Bacchi also mentioned more or less in her work (2007, pp.1-2; 2010, pp.2-3; 2012, p.21).
4. To have a more open mind to identify problem representations in policies for future research, since different problem representations could be implied from the same policy concept (*see chapter 4)*, I recommend to start open (as my approach) and later reflect on the identified policy concepts.
5. In order to identify how certain policy concepts relating to urban green are implemented in policies, further research could have a more closed starting point: focused on one or a few policy concepts.
6. In order to remain updated about the status-quo, the newest policies in relation to urban green and additional interviews with municipal officials could be analysed for the same cities for future research.
7. To show how problem representations in relation to urban green have manifested or changed over time, further research could also zoom in on one case study and focus on the development of problem representations in relation to urban green in policy over a period of time.
8. In order to identify similarities and larger trends between policies and problem representations in relation to urban green of different municipalities, more and/ or different municipalities (of other countries) could be included for further research.

For practical application, the societal object *to provide insight of the status-quo how problems in relation to urban green are represented in Dutch municipal policies which are also input for the new Environmental Vision* is taken into account for the following recommendations:

1. Gain new insights with these overviews in the result chapter (*see 5.1-5.3)* and this conclusion (*see 7.1)* about the identified main represented problems in relation to urban green, the origin of these problem representations (knowledge, power, represented cause and justifications) and the effects of these problem representations (represented solutions, left out problems, conflicts and subjectification of urban green) for the selected policies of the Dutch cities Amersfoort, Utrecht and Haarlem. These new insight could result in changing the status-quo of the selected municipalities or other municipalities.
2. In order to identify the status-quo of how problems in relation to urban green are represented and what the origins and effects are, my conceptual model (*see figure 2.3/5.0A)* and the six questions of Bacchi with my added question (*see third recommendation for future research)* could be used as tools by policy makers. This could also lead to changing the status-quo.

3. The case studies showed that the 'problem' in relation to urban green and 'cause' are not clearly named in policy. I would like to recommend policy makers to clearly name the identified 'problem(s)' and 'cause(s)', in addition to the proposed solution(s) in relation to urban green in policy in order to check the proposed solution(s) in terms of coherence and effectiveness. I believe this leads to more integrated and effective policies, which is also aimed for concerning the future Environmental Visions with the upcoming Environment & Planning Law.
4. Be aware that how people interpret policy concepts relating to urban green (*see chapter 4)* could influence how problems, causes and solutions are represented in policy and subjectification of urban green. However, different problem representations, represented causes, represented solutions and subjectification of urban green could be implied from the same policy concept. Interpretations of several policy concepts could also be combined in a problem representations, represented causes and/ or represented solutions(*as a starting point, see my quickscan of policy concepts relating to urban green and implied problem representations in chapter 4)*.
5. I recommend to describe in policy how a policy concept is interpreted. Reasoning that an empty policy concept incorporated in the represented cause, problem and/ or solution leads to ambiguity in later decision making when the policy is implemented and could hide particular choices.
6. In order to come up with the represented cause, problem and solution in relation to urban green in policy, I recommend to formulate a question for the represented problem, one description for the represented cause(s) and one description for the represented solution(s) in policy which are based on interpretations of several policy concepts relating to urban green combined. I personally suggest to combine the policy concepts of instrumental and intrinsic value of nature with ES and the 3 P's of sustainability into descriptions which acknowledge that humans are part of nature and strive towards sustainable development in terms of balancing economic, social and ecological interests (also for urban green). For the upcoming Environment & Planning Law and the ambition of more integrated, effective Environmental Visions (and Plans) which take sustainable development into account, I suggest to include descriptions of what is meant with 'sustainable development' just as the Resource Management Act of New Zealand did.

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Pictures front page

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Figures

1.3 – Schematic overview of the introduction

▪ By author

2.0 - Narrowing down from Social constructionism to the WPR-approach

▪ By author

2.3 - Conceptual model

▪ By author (figure is the same as figure 5.0A)

3.2.1A - Location of selected Dutch cities Amersfoort Haarlem and Utrecht

▪ Google Maps (2018), adjusted by author. *Netherlands.* [online] Available at: https://www.google.nl/maps/@52.2523346,3.1052472,1348292m/data=!3m1!1e3 (Accessed: 25-03-2018)

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3.2.1B - Population growth per Dutch municipality 2006-2016

▪ The Environmental Data Compendium (is a partnership of CBS, PBL, RIVM and WUR) (2016), adjusted by author. *Population growth 2011-2016.* [online] Available at: http://www.clo.nl/en/indicators/en2102-population-growth (Accessed: 25-03-2018).

3.4.1 – Ethical considerations of interview protocol

▪ By author

5.0A - Conceptual model

▪ By author (figure is the same as figure 2.3)

5.0B – Analysed policies per municipality

▪ By author & see appendix A – Additional information on selected policies

5.1 – Front page Green Vision of Amersfoort

▪ Project group: Rob Molenkamp, Mariëtte den Hartog, Guido van Beek, Dini Teunis, Wytse Dassen, Astrid Janssen, Maureen Schonewille, Iris Cockx, Clarine Jansen, Niko Paap en Wendy van Offeren, editorial group: Rob Smulders, Roel Mulder, Cees van der Linden and Kees de Heer & final editing: Kees de Heer (2016). *Groenvisie Amersfoort – samen maken we de stad groener.* pp.1-48. (Established: November 2016.) Available at: http://groenvisieamersfoort.nl/wordpress/wp-content/uploads/2015/01/Groenvisie-Amersfoort-definitieve-versie.pdf (Latest accessed: 29-04-2018)

5.2 – Front page Structure Vision on Public Space of Haarlem

▪ Gemeente Haarlem (2017). *Structuurvisie openbare ruimte Haarlem 2040: Groen en Bereikbaar – Ontwerp*, pp.1-154. (Planned to be established on 21-12-2017, source: mail L. 6-11-2017 & is established on 21-12-2017). Available at: https://www.haarlem.nl/sor2040 & https://gemeentebestuur.haarlem.nl/Vergaderingen/Raad/2017/21-december/19:30/Vaststellen-Structuurvisie-openbare-ruimte-Haarlem-2040-groen-en-bereikbaar-1. (Latest accessed: 29-04-2018)

5.3 – Front page Updated Green Structure Plan of Utrecht

▪ Gemeente Utrecht (2017). Actualisatie Groenstructuurplan 2017-2030: voor een gezonde groene toekomst – Concept december 2017. pp. 1-42. (Not yet established before/ during interviewing, source: Mail R. & established in December 2017). Available at: https://www.utrecht.nl/fileadmin/uploads/documenten/wonen-en-leven/parken-engroen/ groenbeleid/2017-12-Actualisatie-Groenstructuurplan-2017-2030.pdf (Latest accessed: 29-04-2018)

Tables

2.3 - How the bold words in the theoretical framework are operationalised into the conceptual model and research questions

▪ By author

▪ Bacchi, C. (2007). *What's the Problem represented to be? An Introduction*. Abbreviated version of an argument developed at length in: Bacchi (1999), Women, Policy and Policy: the construction of policy problems. London: Sage.

▪ Bacchi, C. (2010). *Foucault, Policy and Rule: Challenging the Problem-Solving Paradigm.* Aalborg, Denmark: Feminist Research Center in Aalborg [FREIA].

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▪ Foucault, M. (1980) Truth and power. In C. Gordon (Ed.), *Power/Knowledge. Selected Interviews and other Writings 1972–1977.* Hemel Hempstead: Harvester Wheatsheaf.

▪ Jørgensen, M. & Phillips, L. (2002). *Discourse Analysis as Theory and Method.* London, Thousand, New Delhi: SAGE Publications.

▪ Sharp, L., & Richardson, T. (2001). Reflections on Foucauldian discourse analysis in planning and environmental policy research. *Journal of environmental policy and planning*, 3(3), pp. 193-209.

3.1.2A - Amount of document-analyses and interviews

▪ By author

3.1.2B – How the conceptual model and research questions are operationalised into interview questions

▪ By author

▪ See Appendix B - Interview questions

3.2.1 - Position greenest city of the Netherlands for Amersfoort, Utrecht and Haarlem

▪ By author

▪ Visschedijk, P.A.M. (2014), adjusted by author. *Heerlen, Emmen en Lelystad groenste steden van Nederland*. [online] Available at: https://www.wur.nl/nl/nieuws/Heerlen-Emmen-en-Lelystad-groenste-steden-van-Nederland.htm [Accessed: 23-01-2017].

3.2.3 – Meaning of symbols in transcripts and quotes

▪ By author

▪ Hay, I. (Ed.)(2010). *Qualitative Research Methods in Human Geography.* Third revised edition. Canada: Oxford University Press, pp.1-464.

3.3A - Analysed material: policy documents and interview transcripts

▪ By author

▪ See appendix A – Additional information on selected policies

3.3B - Overview of how research questions, methods, data and data sources are related

▪ By author

4.0 – Policy concepts relating to urban green and the implied problem representations

▪ See literature list

Appendix

Appendix A – Additional information on selected policies

Municipality	Selected policies as 'most recent and/ or relevant policies relating to urban green'
Amersfoort	▪ Gemeente Amersfoort (2004). *Beleidsvisie Groenblauwe Structuur*. pp.1-52. (Established: March 2004). Available at: https://www.hetgroenehuisamersfoort.nl/sites/default/files/Amersfoort%20Beleidsvisie%20Groen%20Blauwe%20structuur%20LOW% 20RES%20for%20Web%202_0.pdf (Latest accessed: 29-04-2018). ▪ Gemeente Amersfoort (2013). *Structuurvisie Amersfoort 2030 – Een nieuwe ruimtelijke sturingsfilosofie voor onze stad.* pp.1-106. (Established: second quarter of 2013, see page 13). Available at: https://www.amersfoort.nl/bericht/structuurvisie-amersfoort-2030-1.htm (Latest accessed: 29-04-2018). ▪ Project group: Rob Molenkamp, Mariëtte den Hartog, Guido van Beek, Dini Teunis, Wytse Dassen, Astrid Janssen, Maureen Schonewille, Iris Cockx, Clarine Jansen, Niko Paap en Wendy van Offeren, editorial group: Rob Smulders, Roel Mulder, Cees van der Linden and Kees de Heer & final editing: Kees de Heer (2016). *Groenvisie Amersfoort – samen maken we de stad groener.* pp.1-48. (Established: November 2016.) Available at: http://groenvisieamersfoort.nl/wordpress/wp-content/uploads/2015/01/Groenvisie-Amersfoort-definitieve-versie.pdf (Latest accessed: 29-04-2018). ▪ Gemeente Amersfoort (2017). *Bomenleidraad*. pp.1-43. (Established 12 December 2017). Available at: https://www.hetgroenehuisamersfoort.nl/sites/default/files/Bomenleidraad%20 definitief%2012%20december%202017.pdf (Latest accessed: 29-04-2018).
Haarlem	▪ Gemeente Haarlem (2005). *Structuurplan Haarlem 2020*. pp.1-131. (Established: April 20th 2005. Currently: Structure Vision). Available at: http://docplayer.nl/7413809-Structuurplan-haarlem-2020-vastgesteld-door-de-gemeenteraad-van-haarlem-op-20-april-2005.html (Latest accessed: 29-04-2018). ▪ Gemeente Haarlem (2009). *Bereikbaar groen - Vaststelling Groenstructuurplan 2020.* pp. 1-64. (Never established: rejected). Available at: http://www.degroenestad.nl/Media/download/2400/ GSP_2020_Haarlem.pdf (Latest accessed: 29-04-2018). ▪ Gemeente Haarlem (2013). *Ecologische Beleid 2013-2030.* pp.1-104. (Established: December 19th 2013. File name: 2013/420660 Vaststellen Ecologisch Beleidsplan 2013-2030). Available at: https://gemeentebestuur.haarlem.nl/bestuurlijke-stukken/2013420660 (Latest accessed: 29-04-2018). ▪ Gemeente Haarlem (2017). *Structuurvisie openbare ruimte Haarlem 2040: Groen en Bereikbaar – Ontwerp*, pp. 1-154. (Planned to be established on 21-12-2017, source: mail L. 6-11-2017 & is established on 21-12-2017). Available at: https://www.haarlem.nl/sor2040 & https://gemeentebestuur.haarlem.nl/Vergaderingen/ Raad/2017/21-december/19:30/Vaststellen-Structuurvisie-openbare-ruimte-Haarlem-2040-groen-en-bereikbaar-1 (Latest accessed: 29-04-2018) ▪ Rijksinstituut voor Volksgezondheid en Milieu [RIVM] & Ministerie van Volksgezondheid, welzijn en sport [Ministerie van VWS] (2018). *Meer over teeb.stad.* pp.1-2. [online] Available at: https://www.teebstad.nl/meer-over-teebstad (Accessed: January 8th 2018)(Latest accessed: 29-04-2018).
Utrecht	▪ Gemeente Utrecht (2015). *Plan Gemeentelijke Watertaken Utrecht 2016-2019*. pp.1-58. (Established: 2015). Available at: https://www.utrecht.nl/fileadmin/uploads/documenten/bestuur-en-organisatie/college-van-b-en-w/begroting_en_verantwoording/2015/2015-09-plan-watertaken.pdf (Latest accessed: 29-04-2018). ▪ Gemeente Utrecht (2016). *Ruimtelijke Strategie – Utrecht kiest voor gezonde groei.* pp.1-64. (Established: 2016). Available at: https://www.utrecht.nl/fileadmin/uploads/documenten/wonen-en-leven/bouwen/bouwprojecten/ Rapport-RSU-Utrecht-kiest-voor-gezonde-groei-20160610.pdf (Latest accessed: 29-04-2018) ▪ Gemeente Utrecht (2017). *Actualisatie Groenstructuurplan 2017-2030: voor een gezonde groene toekomst – Concept december 2017*. pp. 1-42. (Not yet established before/ during interviewing, source: Mail R. & established in December 2017). Available at: https://www.utrecht.nl/fileadmin/uploads/documenten/wonen-en-leven/parken-engroen/ groenbeleid/2017-12-Actualisatie-Groenstructuurplan-2017-2030.pdf (Latest accessed: 29-04-2018) ▪ Gemeente Utrecht (2017). *Omgevingsvisie Utrecht.* pp.1-14 (Environmental Vision version 1.0 contains only established policies: *"Bij thematisch beleid: groen, bomen en water, openbare ruimte. Op gebiedsniveau hebben we dat overzicht nog niet."* Source: mail T., 17-11-2017) [online] Available at: https://www.utrecht.nl/bestuur-en organisatie/beleid/omgevingsvisie/ (Latest accessed: 29-04-2018)

Appendix B – Interview questions

The final version of the interview questions and the introduction are shown below. The interview questions and introduction are in Dutch, because the interview was in Dutch.

Intro: Ten eerste hartelijk dank voor uw tijd. Dit interview zal ongeveer 30 minuten duren, waarbij eventuele uitloop van het interview niet in de tijdsberekening is meegenomen. Dit interview is onderdeel van mijn masterthesis voor de opleiding Landscape Architecture & Planning aan de Universiteit van Wageningen en de resultaten van dit interview zullen dan ook in mijn masterthesis worden opgenomen. Mijn masterthesis gaat over hoe de formulering van problemen met betrekking tot stedelijk groen in gemeentelijk beleid tot stand komt en wat de gevolgen van deze probleem formuleringen zijn. Met stedelijk groen wordt in dit onderzoek alle verschillende typen planten en ook water bedoeld (dus we hebben het over stedelijk groen en blauw). De eerder aanbevolen meest recente en relevant beleidsdocumenten van uw gemeente heb ik daarbij hiervoor gelezen en alvast deels geanalyseerd. Daarop aansluitend zou ik u een aantal vragen willen stellen. Vindt u het oké dat dit gesprek wordt opgenomen? Dan kan ik het gesprek transcriberen. Indien u niet uw naam in mijn onderzoek naar voren wilt laten komen, zal ik uw naam niet vermelden, maar wordt u genoemd als 'beleidsmedewerker gemeente …'of iets dergelijks. Wat is hierin uw voorkeur?

Dan zal ik nu de opname starten voor het interview.

Dan komen nu de vragen:

*1. In hoeverre bent u **bekend en betrokken** met het gemeentelijkbeleid omtrent stedelijk groen (en blauw)?*

1.1 Op het gebied van stedelijk groen, waar zijn jullie momenteel mee bezig (qua projecten, beleidsdocumenten, etc.)?

*1.2 Wat betreft stedelijk groen, wat zijn nu de **geldende en belangrijkste** beleidsdocumenten? (Waarom belangrijkste? Wat staat daarin wat belangrijk is?)*

*2. Wat zijn **specifieke issues** wat betreft stedelijk groen voor jullie gemeente?*

*2.1 Op het gebied van stedelijk groen, wat is volgens u het **kernprobleem/ hoofdproblemen** die de gemeente probeert aan te pakken? (uitdagingen/ opgaven)*

*2.2 Wat maakt het **lastig**? Wat wordt daarbij gezien als de **oorzaak** van het probleem?*

*2.3 In welke **beleidsdocumenten** komen volgens u deze problemen en oorzaken duidelijk naar voren? (Waarom niet?)*

*3. **Hoe zijn jullie gekomen** op de focus op deze problemen/ uitdagingen met betrekking tot stedelijk groen?*

*3.1 Is het hoofdprobleem wat u zojuist noemde **gebaseerd op eerdere kennis**?*

*3.2 Welke **argumenten** zijn **dominant** als het gaat om stedelijk groen (is dat veranderd in de loop der tijd?)*

*3.3 **Wie** heeft invloed op welke argumenten wat betreft stedelijk groen dominant zijn (is dat veranderd in de loop der tijd)?*

*3.4. Zijn er volgens u bepaalde relevante problemen NIET genoemd in het meest recente/relevante beleid omtrent stedelijk groen? En kunt u mogelijk verklaren waarom bepaalde problemen m.b.t. stedelijk groen **NIET zijn genoemd**?*

*4. Het wel/ niet noemen van problemen (m.b.t. stedelijk groen) in beleid, wat zijn denkt u de **effecten of gevolgen** daarvan?*

*4.1 Welke **oplossingen/ projecten** staan centraal in het meest recente en/ of relevante beleid omtrent stedelijk groen en hoe staan die in relatie met het hoofdprobleem die u noemde?*

*4.2 **Wie-of wat** (bepaalde groep/ thema) staat er voorop in het beleid omtrent stedelijk groen (bij het beleid, of bij de uitvoering)? Welke groepen ondervinden **voordelen** en welke **nadelen**?*

*4.3 Hoe is de gemeente van plan te dealen met de **problemen die nog niet (of niet duidelijk) in beleid** genoemd zijn, maar die nu al gevolgen met zich meebrengen?*

*4.4 In hoeverre zijn jullie bezig met het opstellen van een **Omgevingsvisie** en wat nemen jullie daarin mee?*

5. Welke andere relevante documenten / personen zou u mij aanbevelen te bekijken/spreken om een betere beeld te krijgen van problemen omtrent stedelijk groen waar de gemeente zich mee bezig houdt?

Probes for all questions: Kunt u dit nog verder toelichten?

Clarification questions: Dus als ik het goed begrijp, bedoelt/ zegt u dat ….? (korte herhaling of samenvatting van wat is gezegd)

Dat was het. Nogmaals hartelijk dank voor dit interview. Indien u dat interessant vindt, kan ik u mijn onderzoek sturen wanneer het af is. Ik heb verder voor u nog een bedankje meegenomen.

Nog een hele fijne dag toegewenst.

Appendix C – Coding Scheme

This final Coding Scheme (see next page) is applied for all coding frames of the analysed policy documents and interview transcripts. The following words made bolt in the coding scheme refer to the concepts of the conceptual model (*see figure 2.3 or 5.0A)*: identified problem representation, cause represented to be, solution represented to be/ represented solution, knowledge, power, justifications, conflicts, problems left out and subjectification.

Coding Scheme:

Document Interview-transcript	**Identified problem representation**	***Sub-question 1**: What is the problem represented to be in relation to urban green in the most recent and/ or relevant municipal policies of the Dutch cities Amersfoort, Haarlem and Utrecht?*		
		Connected to problem representations		
		Part of how come about	Part of effects	Part of effects
		Cause represented to be	**Solution represented to be**	Concerns/ **conflicts** left out unproblematic
Page numbers				
Page numbers				

Document Interview-transcript	**Identified problem representation**	***Sub-question 2**: How have these problem representations in relation to urban green come about in these policies?*		
		Origins of problem representations		
		When / Motivation: based on which **knowledge**	**Power/** By whom	**Justifications** / taken for granted
Page numbers				
Page numbers				

Document Interview-transcript	**Identified problem representation**	***Sub-question 3**: What are the effects for urban green of these problem representations in these policies?*		
		Effects of problem representations		
		Discursive: affecting what is discussed and not discussed = other relevant **problems left out**	**Subjectification**: affecting how people think about themselves and urban green	Lived effects: affecting the impact on life and death = **represented solutions**
Page numbers				
Page numbers				