

THE BRICKS OF NATURE

A study into the formulation and meaning of greening policy on a municipal level.



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Abstract

Greening is used all throughout planning policy in the Netherlands. The meaning and definition of this action are still quite vague. In the search for a definition this study notices the following things. First like suggested by authors such as Swyngedouw a multitude of socio-natural relations exist. In the case of the Netherlands these relations mostly relate to the degree in which humans can be connected and involved with green space and nature. Four other areas of consideration in these socio-natural relations are identified. Allocation, Typology, Accessibility, and Management and Conservation are areas in which municipal policy makers and planner make choices in relation to the position of green space in the urban context. These four areas are used by municipalities to clarify and detail what greening means to them. However as will be concluded, on the level of general municipal policy greening will, regardless of its well-meant intentions, remains to be used as a buzzword. A notion of what it means, with differing interpretations, and used to simplify a wide range of actions and strategies taken in its name.

1. Introduction

In line with the recent trend of sustainable development and climate adaptation the value of nature is a standard part of policy documents. Often related to ecstastic, health and environmental benefits nature development and urban green spaces are more often seen as an essential part of urban life (Compendium voor de leefomgeving, 2014). The drowning city (Alföldy, 2019), The Antwerpen province wants more eatable green in cities (Landbouwleven, 2019), Façade green for sustainable cities (Vlaams infocentrum land-en tuinbouw, 2019), The challenge of the city: compact cities and Urban green space (Ponsen, 2019) are only a few of the many news reports entailing the many faces green space can have in and around the city. The question of, do we need nature or green space in our cities, does no longer need answering. Yes we do. The question remains to what extent and what shape it has to take, do we manage green space, and do we have the space available to do sufficient nature development? Especially this last question is one that has taken front stage in planning debate.

The quest for green space proves to be a challenge to many governments as it makes a claim to urban space in the same way housing, infrastructure and offices lay a claim on city space. The interest of ever growing housing demand in cities as a result of population growth and migration trends, competes with the need for open and green space in that same city. Dieleman, Dijst, & Spit, (1999) and Neuman, (2005) among many others have studied the compact city phenomenon, the challenge of planning and designing a city that allows for multiple competing functions that all want a place with in the limited pace of the city.

Planners need to make a choice on where they position themselves in the planning triangle; economic development, social justice and environmental protection (Campbell, 1996). Where before the environmental part of this triangle mostly existed outside the city, today, designers, architects and planners look for ways to combine the three functions in the same space. Examples can be found in vertical forests and *operatiesteenbreek*, in which municipalities actively promote taking bricks and stones out of the pavement and streets and leave them open so that water can more easily flow back into the ground in case of extreme rainfall (Rodemans, 2017; Benschop, 2019). In addition to this new types of nature and greening have emerged in cities, one example, which will be used as an example in this study is the tiny forest program in which citizens and municipalities build small scale forests within the city which are managed and used by citizens and schools.

Greening cities is seen as an answer to many contemporary urban challenges. When dealing with heat stress and more intense rain fall, green space can provide cooler areas and places where water can enter the ground, as well as the reduction and conversion of CO₂ as a result of trees and shrubs. In addition, accessibility and close proximity of natural elements and green spaces has proven to have health benefits for people living and working in the surrounding areas on multiple occasions (Beatley, 2016). Alongside with of course biophysical befits that green space has on the biodiversity and the survival of species in both the urban and rural landscape.

As a result of these benefits and the acknowledged importance of nature or green space, many municipalities have the ambition to make their municipality (more) green. Greening implies that nature, plants, animals, water are increasingly allowed in the city and become part of the urban landscape. Titled "*Planting three trees, is not greening*", Bouwman (2019) explains by the example of Weert, a Dutch city, how cities everywhere claim to be green, jet it does not seem to say much as a definition of what is greening is vague or absent.

All over the world vertical forest, green corridors, green belts and city gardens have emerged. All of which contribute to this idea of creating a nature-full city. However, the question remains, are they all part of the same set of ideals and policy or are they just that, separate initiatives, each with their own interpretation, unified under a common buzzword? Is the term greening is entering the stage of buzzwords alongside its companions *Sustainabiliy* and *development*, being part of a well-meant

ideal, a phrase that can mean anything and everything, different for whomever wants to use it. Or are there set ideas, definitions and rules to what nature development means for city planners and policymakers.

Despite its common usage the meaning of the term Greening or Nature development remains vague. This use of greening versus nature development will be separated further on in this study, however for now these two are used alongside each other as they are both initially used as substitutes, it is however expected that during the study a distinction between the two can be found and identified. Therefore the question asked in this study is:

To what extent do the terms greening/nature development have a set of core values applicable to spatial planning policy on a municipal level?

To answer this question the following objectives will guide the thesis.

1. Identifying different uses and definitions for municipal nature development. What are the underlying principles of Nature?
2. Critically assessing in what instances the word nature is used in municipal planning policy and with what purpose.
3. Identifying the characteristics of buzzwords and comparing them with the term greening.

1.1. Relevance

This study analyses the ideal of greening and nature development on a Dutch municipal level, in order to understand what it means to do nature development. It will compare the interpretations of nature from different municipalities and will try to identify a common conception of what nature development means in this age. In this it tries to take nature and greening out of the buzzword stage of endless use and meaning, and give it content and context.

1.1.1. Scientific relevance

Moving on from the stage of being part of the scientific sustainability debate and the more architectural theories, this study brings greening and nature development into its own debate. As is shown in Haaland's overview of green space publications only one publication on green space policy was found (Haaland & van den Bosch, 2015). It is undeniable that nature plays a huge part in the sustainability and climate adaptation debate, however for this study the roles will be reversed with climate on a secondary level and nature/green space on a primary level. The same goes for debates on the compact city and the city vs nature theory. They are undeniably connected and of great influence to each other, and if necessary they will be mentioned, they will not be the main focus of the study. By starting off with defining what entails greening and nature development the study focuses on the intended outcome of nature development policy rather than result of the development. It thus starts at the beginning rather than with the consequences.

A lot has been written on the use of *sustainability* and *development* as buzzwords (o.a. Cornwall & Brock, 2005). Nature or greening is often mentioned in relation to sustainability in policy documents and there are lots of different ideas and theories of the use and definition of nature in scientific literature, which are shortly explored in the literature assessment. However, there is a lack of literature critically assessing the use and meaning of the word nature in the same way as has been done for the word sustainability. This study will begin to fill that gap.

1.1.2. Societal relevance

Second the study will have relevance for the planning practice as the study will force participants and readers to critically reflect on their own use of the word nature in policies as well as be aware of their existing policies regarding nature development. As new policy documents are being designed in time

for the inauguration of the new *omgevingswet* (general planning policy) this study might also help municipalities be critical and sufficient in their definitions and plans. Also with the selection of another 12 municipalities as participants in the Tiny Forest project, the question of the larger scope of these small scale nature projects has come again.

1.2. Readers guide

To help the reader through the report, this readers guide will provide something to hold on to. As has been stated above the goal of the study is to find key understandings of the concept of greening cities. Before starting to assess existing concepts and theories that are related to the subject it is important to lay out the methods and steps that you are about to take. This will be done in chapter two on methodology. As the theoretical analysis is an important method of the study this will be situated after the methodology. In chapter three this theoretical overview will be given according to the two most apparent aspects of the study, nature and buzzwords. Following this chapter four will provide the results of the study, connecting both methods and theory as well as the subparagraphs within those chapters. The study will conclude by answering the question stated above and critically reflect on both the literature, methods and results.

2. Methods

In order to write a study worth mentioning it is important to explain and reflect on the methods and choices that frame the study. In this chapter the choices made in relation to the used methods and the selected subjects are explained and justified. This will be done according to strategies proposed by Bryman, 2016; Scheepers, Tobi & Boeije, 2016; Baarda et al., 2013).

2.1. From theory to results

As with most studies it is important to be aware and critical of existing theoretical concepts and ideas that circulate the scientific world. To start of the study will use existing theory on both *nature*, green urban space and buzzwords to create a theoretical base and starting point, to which in the end the results will be linked. Also, the theoretical frame will form the base for the questions that guide the interviews and form the code to analyse these and the policy documents. As existing theory mainly exist in relation to other terms and subjects like *sustainability* and *development* this theory will be stripped down to its underling ideas. These ideas and concepts will then be applied to the terms *nature* and *greening*.

Through a combination of literature review, document analyses and in depth interviews data will be collected. To use the term mixed methods may seem cliché and an undefined buzzword in itself, however in this case each method used will add to the previous and deepen the level of analysis and the sufficiency of the data. The explorative nature of this study, in which theory is applied to a new and different subject to see what the results will be in a different case, leaves room to debate the inductive or deductive approach of this study.

As mentioned before the theoretical frame will be the source of inspiration in creating a “code” that allows for the translation of both interviews and policy documents into data that can be compared between municipalities. While analysing and deconstructing the policy documents attention will not only be paid to what the word seems to mean, but also the context and location within the document. Is it for instance part of a chapter specifically written on nature development or is it part of a wider topic.

In addition to this six interviews are held to really figure out the meaning of *greening*. What was meant when the documents were written and what does *nature* and *greening* mean to them as the person developing these policy documents? These interviews will take place in cities connected to the 2018 tiny forest programme, more on this choice will follow in the next paragraph.

The interviews will be modelled in a semi structured matter. This will allow for the interviewer and interviewee to divert slightly from the topic list and explore interesting subjects that may arise but where not accounted for or expected to be mentioned in the initial topic list. If during interviews new interesting subjects or questions arise the list is adjusted and these questions are to be asked in further interviews. On example is the change in ideal over time which was mentioned during one of the first interviews and later added to new interviews.

All collected data will be compared and analysed. It is always a challenge in social research to make the multiple cases comparable. Although the choice of subjects will be explained later, it is important to state here that a focus on planning policy will make the cases more relatable as the format of planning policy documents in the Netherlands is similar all over the country even though the content varies. The main planning policy documents are the *stuur/omgevingsvisies* and *bestemmingsplannen* (zoningplans and visions) and more specifically in the case of greening and nature policy the *groenstructuur visie* and *leidraad groen*. The analysed results will reflect back on the existing theory on nature and nature development. It will also provide an overview of definitions and approaches, best practices and of course try to construct a common definition of *nature* and greening if one such exists. Second the results will reflect on the degree to which *nature* is used as a buzzword.

2.2. What, When and where?

As there are many types of nature related planning policies at different scales and within different organisations it is important to clearly state who can participate and to justify why some are in- and others are excluded from this study. Because there are so many different types of nature development projects within cities and each has their own boundaries, perspectives and size, this study has chosen the Tiny Forest project as a criteria for selecting participants.

The tiny forest project (Box 1) is in its very essence about nature development within a build environment and has a clear set of criteria for all participating parties/municipalities, because of this the projects are more or less the same in every municipality and to a lesser extent dependent on local policy and visions. It thus fits perfectly within this study as it is about nature rather than sustainability or compact city principles, although as mentioned before these are not unrelated. It is expected that municipalities that are participating in the Tiny Forest programme are in a larger context involved in nature development within the city. These tiny forests are not necessarily direct results of planning policy, however they are expected to be in line with visions on city development as municipalities and citizens themselves make the choice to sign up for the programme.

Box 1: Tiny Forests

The Tiny Forest idea originates from Japan where Akira Miyawaki designed a method for replanting indigenous trees. Based on his ideas the Indian engineer Shubhendu Sharma set up the Tiny Forest project. In the Netherlands the IVN is leading in the program. They have provided municipalities and initiative takers with a list of criteria that apply to all who want to take part in the program. This does not exclude that non-participants cannot create their own Tiny Forest (IVN, n.d.).

Criteria Tiny Forests

Physical criteria	Social criteria
A study (field- or desk research) has been done to identify common indigenous species.	An outdoor classroom for at least 30 students is present
Only indigenous species are planted in the Tiny Forest.	A local as initiative taker for the project
The soil is processed according to the Tiny Forest plan method	The forest is planted by local residents ad school children
At least 25 species of trees are present	The forest is adopted by a primary school or day-care form the neighbourhood.
3-5 trees per square meter	The school/day-care uses the outdoor classroom on a monthly base for outdoor classes
Trees can grow undisturbed for at least 10 years	Local residents can use the forest as a meeting place
Fallen leaves, branches and dead trees are not removed	The forest has a management and experience calendar with activities for the neighbourhood and school.
The forest is at least 4 meters wide everywhere, without interruption (for instance a path)	
The forest has a mulch layer (for example straw) of at least 15 cm thick	
The first 2 year a fence will surround the forest in order to protect young trees	

The first Dutch Tiny Forest was a pilot project undertaken in Zaandam in 2015. Based on the success of that project the *Instituut voor natuur educatie en duurzaamheid* [IVN], aka; institute for nature education and sustainability, started the nationwide Tiny Forest program 2018, in which twelve municipalities were selected to participate. Due to the success and the large number of participant requests the program was repeated in the beginning of 2019. The signup period opened on the 18th of March and will close a month later on the 26th of April. Then again, twelve municipalities will be chosen to develop Tiny Forests in their cities (IVN, n.d.).

The participating municipalities of the 2018 Tiny Forest project will form the subjects in this study. Using the tiny forest program as a selection tool ensures that all kinds of municipalities are included and that the municipalities participating are actively involved in nature development and greening cities. They include: Almere, Alphen aan den Rijn, Apeldoorn, Den Bosch, Goes, Groningen, Hardenberg, Leiden, Maastricht, Meppel, Uithoorn and Utrecht. These cities provide a wide representation of cities in the Netherlands, from North to South and from small to larger cities as can be seen in Figure 1 and table 1. They not only differ in size and population, but also in their nature score and nature currently present in the municipality. Notable is that the larger cities seem to score

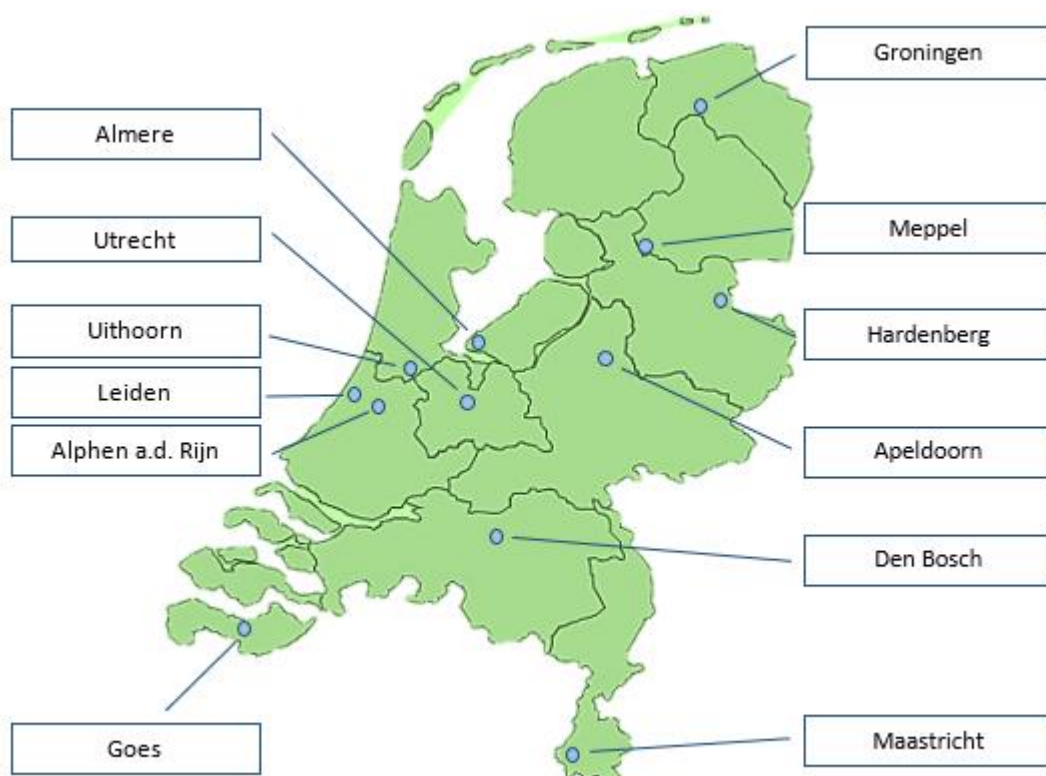


Figure 1, Map of all participating municipalities.

higher than the smaller cities. This may be due to larger funds and more space within the city where smaller cities have more green space outside the city.

The diversity will allow the results of the study applicable to multiple situations in the Netherlands rather than just the largest cities or the Randstad as is often the case in planning studies. This will also allow for a possible distinction between different scale cities. Being larger cities, Utrecht, Groningen and Den Bosch may have a different take on nature than smaller cities like Goes and Uithoorn. Some of the cities have multiple tiny forests. Other known Tiny Forest municipalities include Zwolle and Delft. Although these are not part of the twelve 2018 participating cities, they are

considered as possible participants for the study in case the previous twelve cities cannot provide sufficient data for whatever reason.

Table 1: Basic data on the twelve selected municipalities

Municipality	Size rank selected cities	Size rank NL (top 100)	Citizens (end) 2018	Population growth % 2018	Province	Registered nature Ha 2015
Almere,	2	7	207 819	1,88	Flevoland	2 738
Alphen aan den Rijn,	8	26	111 036	0,14	Zuid Holland	122
Apeldoorn,	4	11	162 456	0,81	Gelderland	16 495
Den Bosch,	5	17	154.231	0,52	Brabant	520
Goes,	10	-	37 654	0,05	Zeeland	139
Groningen,	3	8	203 848	0,51	Groningen	147
Hardenberg,	9	62	60 575	0,06	Overijssel	2 169
Leiden,	6	21	124 797	0,39	Zuid Holland	16
Maastricht,	7	23	121 623	-0,90	Limburg	196
Meppel,	11	-	33 573	0,49	Drenthe	148
Uithoorn	12	-	29 450	0,02	Noord Holland	6
Utrecht	1	4	352 795	1,53	Utrecht	179

Notes: Population numbers are collected from the national database, Statline CBS. The size rank is based on multiple sources among which, Allecijfers.nl (n.d.) and Promovendum, (2019) in which 1 is the largest and 12 is the smallest.

When looking at the Ha of nature registered in the municipality larges differences can be seen. This is likely due to the different scales of the cities. Also some cities have relatively smaller “nature” level and large agricultural levels. It is thus hard to compare cities on their level of Ha nature.

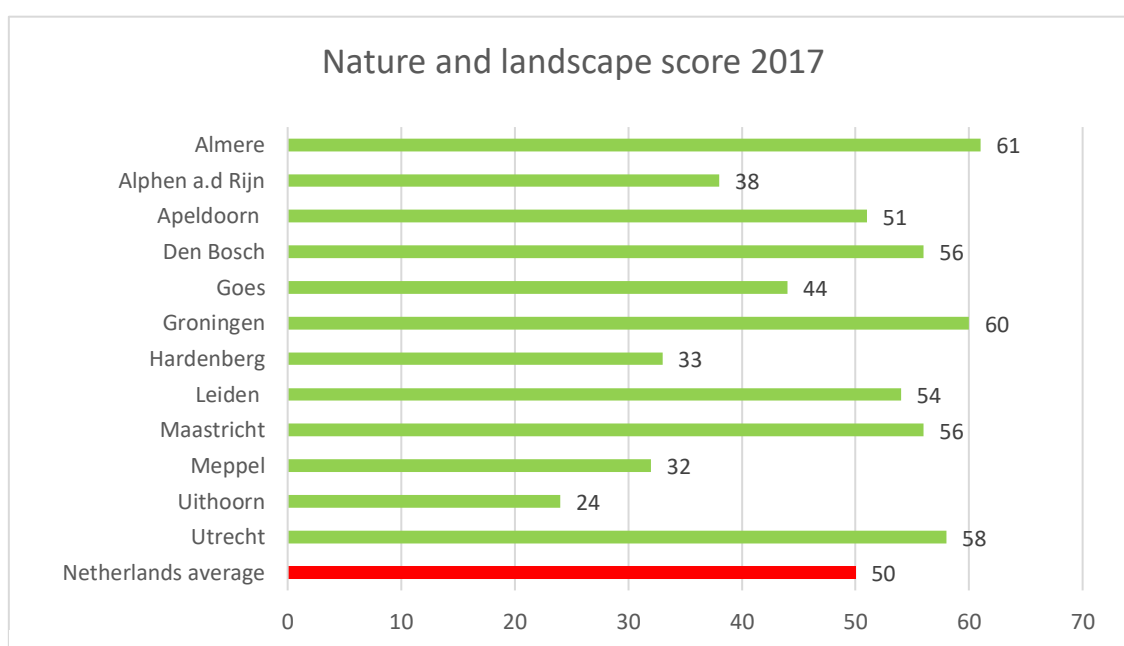


Figure 2. Score on Nature and landscape from 0 (low) to 100 (High), based on the following indicators: Forest and nature like terrain, distance to public green, distance to recreational water, number of species on the red list, and species diversity (Source: Telos, on Waarstaatjegemeente.nl, 2019)

2.3. Ethical consideration and reflection on the methods

Even though it is not expected that this study will have great ethical consequences it is always good to be aware of the consequences of your studies and research. In the most extreme case the results from this study might change the perspective on nature development. Where today nature development is seen as something positive, the outcome of this study may open debates like the ones on sustainability and poverty. What shape these debates will take is hard to predict, however it is likely that the results may prolong decisions made in the case of nature as more discussion will arise as to what it might mean to develop nature.

It is also good to consider that for this study a relatively small group of participants was chosen. This makes the study very specific and keen to nuances. In further research, possibly based on this study, researchers can further look into the scope of greening in different, or a larger number of cities. A more quantitative approach may also be considered in further research. Tis study has specifically chosen for a qualitative approach as it allows for a more in detail set of data from a relatively small number of subjects.

3. A frame for nature and buzzwords

In order to be able to understand what *nature* and *greening* means and whether, or not, it has become an empty buzzword like *sustainability* two things have to be understood before further research into the use and application of the word can be conducted. First it is imperative to understand from a theoretical point the development of nature and the evolution of nature in spatial planning. As will become clear nature and greening discussion seems to unfold alongside four main areas of consideration: Allocation, Typology, Accessibility and Management. Second, where there is a lack of theory and academics on the usage of the word *nature* there are however a lot of similar studies on different types of *development geography* related terms, like *poverty* and *Equality*. These, together with general theory on the use and framing of words, form a base for understanding what a buzzword, sometimes called fuzzwords for their fuzzy definition and vague use, is.

3.1. Nature

Nature seems to be a self-explanatory concept, and like all words it has a place in the dictionary. Nature is: “*The phenomena of the physical world collectively, including plants, animals, the landscape, and other features and products of the earth, as opposed to humans or human creations*” (Oxford English dictionary). This suggests that as long as something is a product of the earth, something non-manmade it does not matter what location nature exists in. Swyngedouw (2006) however argues that there is not one ‘nature’ and nature can also be manmade. Rather, according to him, nature exist in a multitude of socio-natural relations. On the one hand nature is something that we humans can forcefully change or influence through, for instance, artificial meat production or wastewater management. On the other end of the spectrum nature is approached as “redressing our intervention in nature, returning it to a presumably more benign (or prehistoric) condition” (Swyngedouw, 2006 p. 3). Within that spectrum multiple definitions and presumptions on what makes nature exist. Just because there is a definition in a dictionary does not mean that every person uses that definition to the letter. A word, as will become clear in the chapter on buzzwords, can be used in multiple ways and will have different meanings to different groups.

In a city context nature is often spoken of as Urban green space (Haaland & van den Bosch, 2015) or Urban green infrastructures (Norton et al., 2015). These spaces are designed to provide the inhabitants of the city with a place of leisure and contribute to bettering living conditions. Although urban nature made its debut in spatial planning literature around the turning of the century through writers like Campell (1996) and Swyngedow (2006) which are mentioned before, nature or green space has always been part of urban planning and the city landscape. When it comes to literature nature knew its place as part of design studies and most of all outside the academic world as part of landscape design. Grant lanes with large oaks and carefully designed English gardens have graced the industrial



Figure 3, Gardens of Versailles. (source: https://reservation.parisinfo.com/il4-offre_i175-transport-versailles.aspx)



Figure 4, Regents park, London (source: own photo)

cities with a place of peace and clean air. These places where a sign of representation of wealth and wellbeing (Atelier GroenBlauw, n.d.). Grand parks like Hyde park and Regents park in London and the gardens of the Versailles castle are examples of this that still shine with prestige and status in the contemporary cityscape. Parks and public green space where also the result of democratisation and function as a space for leisure and recreation (Atelier GroenBlauw, n.d.; Lohrberg, 2001).

Today, the benefits of urban green space on human health and wellbeing have been proven by many a professor, although debate is still going strong on whether these are direct or indirect benefits (Wolch, Byrne & Newell, 2014; Lee & Maheswaran, 2011). There have been studies stating the ideal distance to green urban space and the availability of green space in for instance Europe (Kabisch, Strohbach, Haase & Kronenberg, 2016). *“Green space multifunctionality has often been emphasised as relating to recreation, social interaction, aesthetics, cultural heritage and ecological functions”* (Haaland & van den Bosch, 2015). Beatley developed a nature pyramid based on the nature development plan of Singapore, which illustrates the extent of nature that humans have to be exposed to on what scale and how often (figure 5). This study solely focusses on the lower level of this pyramid, because municipal policy is often designed for this level. The other levels often fall to higher governments, ergo principal, national and European governments.

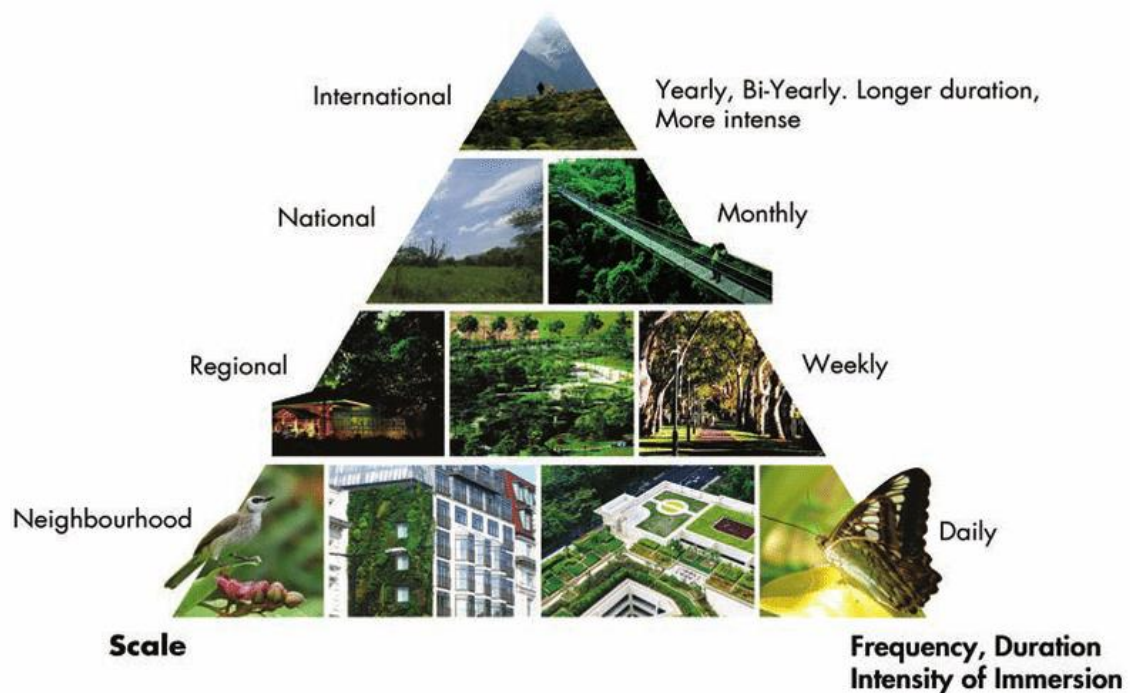


Figure 5, The nature pyramid, is one way to begin to understand what might make up healthy urban nature diet. This specific version of the pyramid developed for Singapore. Credit: Concept by Tanya Denckla-Cobb, further development by Tim Beatley. Image prepared by the Singapore National Parks Board. (Beatley, 2016)

Others have explored the beneficial components of spending time in nature and being able to see and experience it on a daily base. In a study by MacKerron and Mourato (2013) it was concluded that people are most happy when they are in nature. Also the proximity of natural elements whether that be a park or a group of trees of a patch of grass, have a stress reducing effect as well as an indirect and direct effect on health. A study in 2014 showed that hospitals with lots of natural light and a view of trees or greenery have a higher and faster recovery rate, as well as a positive effect of the motivation of staff (Osgood, 2014 cited in, Beatley, 2016).

Alongside human benefits, these spaces are essential to the city itself. *“The strategic*

implementation of urban green infrastructure (UGI) e.g. street trees, parks, green roofs and facades can help achieve temperature reductions in urban areas while delivering diverse additional benefits such as pollution reduction and biodiversity habitat.”(Norton et al, 2014 p 127). Although still of relevance to humans this argument made by Norton et al (2014) shows that green measures and spaces influence more than just human living. The city is a place of many habitats. In Utrecht for example sparrows, bats and swallows nest in buildings (Utrechtse soortenlijst, 2018; Interview Utrecht, 2019), and in London among many other cities foxes sleep on doorsteps. Cities are often more biodiverse than their surrounding landscape.

Some authors find the “beauty” of nature everywhere in the city. Jacques Vink et al. in *Making Urban Nature* (Vink, Volland & de Zwarte, 2017) describe how nature has grown back into the city in the most unlikely of places. Not making a judgement on whether nature has to be non- or human made, they illustrate the endless possibilities and shapes that nature can take on. From miniature urban nature, in the small weeds growing in between the tiles of the pavement to the green roof full of mosses and the good old city parks and gardens. Others argue that a truly nature full city is one that puts nature at the first place. One of the pioneers of this is Timothy Bealty (2016) and the Biophilic city concept he explores. Cities like Singapore and Oslo have prioritized the development of nature within city limits resulting in nature skywalks, on which you literally walk through the treetops on your way through the city, to extensive redevelopment of riverbanks resulting in a trail and pathway system alongside the river and the addition of waterfalls and water recreational areas. There are too many different concepts of the possibilities and the scope of nature within the city that it would probably require a complete library to list them all.

Planners are faced with the decision of where they stand in the debate surrounding nature protection, economic growth and social justice, illustrated in the planning triangle, planners juggle these multiple interest and find some sort of balance (Campbell, 1996). Haaland & van den Bosch, (2015) identifies six challenges for green space development in the context of densifying cities (table 2). This idea of juggling environments, economics and justice becomes even more complicated when there is not one clear definition of what is nature. Politicians and policy makers still have to make that call. Norton et al (2014) concludes in his study of Urban Green Infrastructures in relation to heat mitigation that when planning green infrastructures it is important to determine the key objectives of the development from the start.

In the following paragraphs the four most apparent areas of consideration when discussing nature are introduced and explored. In ongoing discussions and recent reports by media and social discussion platforms; **allocation, typology, accessibility and management**; seem to be the most outspoken topics in relation to greening. These themes, as will become clear in the following, also closely relate to the literary trends and challenges that come with the city vs nature discussion as mentioned by Haaland & van den Bosch (2015).

Table 2, Challenges in current planning and implementation practice in the context of densification (Haaland & van den Bosch, 2015 p 763-766) and their related area of consideration

<p>1. Green space provision in areas under going densification</p>	<p>Creating new green space in already dense urban spaces is met by other claims on space like infrastructure as well as the loss of private green space because of dens housing areas. The challenge is to integrate green space into the build environment, as well as to provide high quality green space while dealing with these densification trends.</p>	<p>Allocation</p>
<p>2. Counteracting social inequalities</p>	<p>The unequal distribution of green space across the city, seems to correlate to social inequalities. Accessibility of green space is a sign of wealth. This unequal distribution is often also related to the location in the city as city centres generally have less green space then suburbs. The challenge is to distribute green space equally while keeping in mind that green space also increases housing prices and in such keep this social inequality intact.</p>	<p>Allocation Accessibility</p>
<p>3. Consideration of resident perspectives</p>	<p>Green space is perceived differently by the people who us that space, also in relation to the quality of life. It is only recently that the resident perspective of density in relation to green space has been considered.</p>	<p>Accessibility</p>
<p>4. Avoidance of deteriorating recreation experience and compensation travels</p>	<p>Not only large and high quality green space, but also pocket parks have a recreational value to the city. People might (depending on the costumes of the country) be willing to pay for access to high quality green space. The challenge lays in the importance of parks and green space as part of everyday life, while increasing usage puts pressure on the recreational space. Also people living in densified spaces will travel further to visit green space.</p>	<p>Typology Accessibility</p>
<p>5. Prevention of biodiversity loss</p>	<p><i>“The negative effects of densification at local level are often due to habitat loss (loss of green space including private gardens), and dense buildingforms have been found to be related to negative biodiversity potential (Tratalos et al., 2007). The urgent need for studies of biodiversity in relation to urban growth at the city scale is shared by other authors(e.g., Lin and Fuller, 2013).” (Haaland & van den Bosch, 2015 p 765)</i></p>	<p>Typology Management</p>
<p>6. Institutional constraints related to e.g., planning and regulations</p>	<p><i>“The lack of comprehensive green space planning that takes a strategic, longer-term perspective on urban green spaces and their developments, is seen as a major problem”(Haaland & van den Bosch, 2015 p 765)</i></p> <p>The combined restraints that are the result of institutional regulations and the scarcity of data provide a challenge for the survival of urban green space over time.</p>	<p>Management</p>

3.1.1. Allocation of green spaces

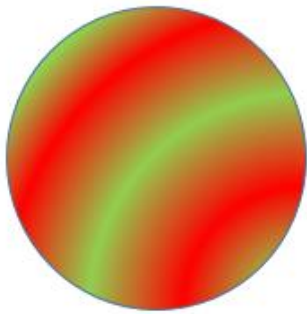


Figure 6, The biophilic city, fluidity of nature and the build environment (Own creation)



Figure 8, Green fingers, designated green space and infrastructure in the city (Own creation)

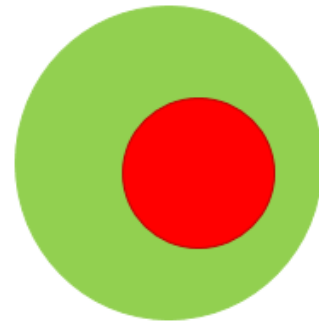


Figure 7, The greenbelt city, nature exists outside of the city (Own Creation)

The past few years have seen a back and forth shift in opinion on where nature belongs and where “real” nature can exist. This question of course is one of great importance to the planner. As a result three main views on where nature should exist have developed. Atelier GroenBlauw (n.d) identifies a fourth one, the park city, in this study that is seen as part of the second notion as its essence is to have sectioned areas of green space within the city. Rather than just a map figure 6,7,& 8 are accompanied by notions and opinions in relation to nature and its place in the city. Difference in notion results thus in difference in the way the green-red map looks. These three are very black and white, however the use of one approach does not exclude the use of the others in that same city.

First is the notion that nature needs to exist outside the man-built environment. Atelier GroenBlauw, calls this *the green ring* model. More commonly known this notion relates to green belt designs. Humans can protect, influence and maintain this nature through the creation of boundaries and policies. Often nature, whether man-made or prehistorical, is seen as something separate from the city by these planners. This often results in planned green spaces outside the city, with the purpose of both containing urban expansion and preserving the natural landscape surrounding the city. An example of this can be found in Keil and Macdonald (2015) who explore greenbelts and red borders in the post-suburban city. Greenbelts, as demarcated green spaces allow urban development to be contained within its boundaries. A Dutch example is the *groene hart*, a space in the middle of the Randstad area which has to deal with very strict lines that separate build and rural landscapes. This idea of greenbelts plays into a larger literary base surrounding nature preservation when dealing with ever growing cities, also playing into the compact city debates mentioned before. Another example are nature reserves and national parks, which are not necessarily located on the boarder of a city, however due to their size they often exist outside the city. Recently London city has petitioned to become the first urban National Park (London National Park City, 2018), illustrating again how even a term as national park does not say anything about what nature is and where it has to exist.

The second notion is that of coexisting. Nature and city can live and thrive next to each other, however in the same city they remain separate. The obvious examples are the many types of parks and gardens. These can be seen as the most traditional of urban green space, they are however not the only ones. Green corridors are used to create a green infrastructure through the city. Connecting parks, as well as connecting the city to its surrounding rural areas. In a case study in China, Zhou and Wang (2011) also noticed similar patterns. In relation to urban green space, urban sprawl and compact city movements “*spatial variances in landscape patterns were detected in different concentric belts and directional transects*”.

As nature was let into the city people started to notice that nature can also come to infiltrate

the build environment when it is left unattended. These neglected urban spaces became the origin story for multiple new species of plants and animals (Monstadt, 2018). Examples can be found in the German *brachen*. Nature can exist within the city, whether it be through public parks, back gardens or green infrastructures such as green corridors (Davies, MacFarlane, McGloin & Roe, 2006). Whereas in the first conception nature had to be separate from the human, something to be preserved in order to be enjoyed, nature in this one is given space and can be created. This aligns with the second approach to nature as stated by Swyngedouw (2006).

The third position of nature is that of a fluent existence in which the clear borders of nature and city become blurred. They can exist within each other, make use of the exact same space, be a part of the other. Beatley (2016) in his *Handbook for biophilic city planning and design*, explores the opportunities of biophilic city planning and design. For the biophilic city all living things are 'nature', whether they are man-made or prehistoric. The benefits of living with nature is an important argument for the author to promote this notion of city and nature. In the biophilic city nature comes first, in planning and design, it is incorporated in every aspect of city life. One can think of naturalising city riverbanks and shores, vertical forests, community gardening, and green walls and roofs (Beatley, 2016).

In the Netherlands green walls are no longer a new concept. Companies like *Greenwall*, *Green Fortune* and *Hoogendoornprojectbelanting* offer design and ecological advice and service to people and companies wanting to invest in such a green wall. Most cities have one or more aspects of the biophilic city, green rooftops, walls and community gardens and farming are only a few examples. However, two of the main aspects of the biophilic city are not as apparent. First the scale, most projects are private initiatives, companies wanting to become green, neighbours sharing and managing a garden. The second is that nature, although becoming more and more important, still often comes second to other social issues like housing and safety. It is thus expected that most of the participating cities in this study will provide a policy view that resonates with the second notion.

These three visions of the place that nature belongs are used alongside each other. As visions have changed over time the urban landscape has changed and so has the urban green space landscape. Parks like hide park and large garden estates like Versailles still exist while new developments bring green walls and vertical forest to the city as part of a new vision. This division also plays into the human-nonhuman aspect of these vision. Where greenbelts, although not necessarily a hundred percent natural, exist outside the human city, protecting them from our need for expansion, the second and third visions see a much closer relation between nature and the human aspect. This correlates with Swyngedouws statement that there is a multitude of social-natural relations.

3.1.2. Different types of green space

One of the areas of consideration that is let apparent in Haaland's challenges is typology. One of the typologies, biodiversity, presented her is also mentioned by her. These typologies are non the less important in the municipal discussion on nature and greening as this entails the discussion of what type of green/nature they see as part of the greening process. There for other authors have been brought in to identify these typologies.

Where Beatley differentiates types of nature on scale as illustrated in figure 5. This study has chosen to make their own list of nature types that focusses especially on typology and function of the place rather than the kind of vegetation or scale. The book *Urban City Making* (Vink, et al, 2017) provides a base for the types mentioned here, as well as a small input from Haaland & van den Bosch (2015). The types are: 1. public parks and green space; 2. nature reserves; 3. street nature and infrastructure; 4. water; 5. brownfields and business districts; 6. gardens and private green space; 7. Trees; 8. Urban farming and 9. ecology and city animals. Each will be explained though a brief

description of what defines them. Later in this study these typologies will be used to identify what kind of green municipalities focus on and to what extent they value them differently.

1. (city)Parks/public green space

In the Netherlands most parks were created in the 19th century (Vink et al. 2017 p200). People wanted to come in closer contact with nature. Parks are mostly used for recreational purposes, providing routes for a stroll through the park and tree-lined promenades. The value of parks for the health of the people and the city has always been known, the realisation that parks form their own biotope, however, is one of recent years (Vink et al. 2017 p201). Parks can take on many shapes. They can differ in size, and planting, in accessibility and relief. They all have one thing in common, they are often designed. Depending on the level of management parks range from natural parks, with only the absolutely necessary management, to cemeteries, where management is undertaken on a daily base. This is the type that municipalities have the most direct influence on as it is often their property.

2. Nature reserves and national parks

Nature reserves or national parks are generally very large in size. They provide a fenced habitat for larger and/or predator animals. Like in South Africa where Kruger Park is home to all of the Big five. Often these parks have one specific, often natural, selling point. The national parks of the United States of America illustrate this perfectly. Sequoia national park, houses the largest tree species in the world, Yellowstone park is home to a rare seismic phenomenon and the Grand canyon park also is home to an impressive display of nature. In the Netherlands for instance national park de Hoge Veluwe, although relatively small compared to the American parks it is still a large park in comparison to the size of the Netherlands. As mentioned before London city is also on the way of becoming a national park. This of course stirred up the dust on the matter of national parks being purely nature or not.

3. Street nature/infrastructure

Roadsides, banks and planters all adorn the streets in the Dutch cities. This can range from short cut grass to flower beds or (water)trenches and lanes. Streets also show a large number of unofficial green. One can think about the weeds growing in-between the brinks and pavements, or the large groups of nettles and mushrooms that sprout after a hose.

4. Water

Water is one that cannot be left out in Dutch city planning, whether it be for economic policy, safety policy or nature policy. This ranges from the small trenches and garden ponds, to lakes and rivers. These water infrastructures and elements provide the city with yet another biotope and dimension of city life, proving both economical gain, alongside recreational and health purposes. In the Netherlands this always has its own policy documents due to the importance of the matter. However it is also often seen as a valuable part of the urban (green) landscape. Aside from being essential for all life, water also adds an aesthetic value to neighbourhoods (Vink et al., 2017).

5. Brownfields and business districts

“Industrial estates form an important ecological link between the city and the countryside. Dry, warm, sandy and with little disruption from people they complement other green spaces in the city.” (Vink et al., 2017 p 157)

These brownfields, industrial areas and office building often do not seem like a very natural place. Lots of parking space and short cut lawns, high buildings and extensive infrastructure, but also a lot of open space in-between it all. Often the green space is private property, part of the companies

and industries, with little public space. They are situated on the outskirts of the city, and form the connection between the in and out of the city. They are seen as a biotope of their own by Vink et al (2017), due to their unique set of conditions that will not be found in many other places in the city. When planners and designers take green space into account these places can provide a place of relative peace and an alternative for green space lost in the city.

6. Gardens and private green space

The private garden is often directly linked to a house or housing estate, allotment gardens are an exception to this rule as they are located in a separate place then the owners house yet they are private property. As the owner is free to do what they want with the space a “green” destination is not guaranteed. Especially suburbs have a large percentage of private gardens, this is often combined with public green space and water elements. At the moment municipalities are enacting operation *Steenbreek* in which they are motivating, whether financially or with other means to leave part of the gardens and public space without paving or asphalt, with the purpose of letting water enter the ground more easily. Vertical forests and green walls can also be seen as part of this typology as they are mostly private owned and managed.

7. Trees

Trees are also part of street nature, however, as they exist throughout the urban landscape and not just the streets and most municipalities have separate policies on trees they are seen as a separate type of nature. They are used as decoration along streets, they create shade and a place for birds and other animals to nest and live. Some of the most well-known examples of trees in the city are lanes. Often trees are placed in planters, or part of a park landscape.

8. Urban farming

An interesting (ethical) question would be if artificial food production can be seen as urban farming. However, what in general is understood as urban farming is the agricultural, production of food, mostly vegetables and herbs, within the urban space. Urban farming is often small-scale farming lead by community members or schools as part of a wider educational purpose. Designs and pilots are being made to test urban farming on a larger and vertical scale as an alternative for rural farms.

9. Ecology and city animals

Cities have a greater biodiversity than most rural areas. The city provides a wide variation of biotopes that are inhabitable to many different species of animals and insects. Foxes, otters, falcons are among the greater wildlife that has made high density and urban spaces their new home. A family of field mice living directly under and around the tracks of the Utrecht central station is a nice example of the extent of and possible habitats that a city provides, even if there is not a plant in sight, animals have found their way of living in the city as much as we people have found ours.

A tenth typology might be found in the tiny forest programme, as the programme creates a type of green space that is unrepresented by any of the above. It is too small to be an nature reserve, too “wild” to be a park and too social to be just about ecology and biodiversity.

These typologies account for most of the urban green spaces, that is not to say they are all-inclusive, new typologies like the tiny forests may be developed as time continues. In the results it will become clear to what extent these typologies are valued differently by municipalities and what typologies encompass the idea of greening better than others. These typologies and the value added to them are expected to closely relate to the level of accessibility and management as presented in the following paragraphs.

3.1.3. Accessibility of green space

The third area of consideration when making greening policy is that of accessibility. In the Netherlands nine out of ten households live within a one kilometre of green space on average (Compendium voor de Leefomgeving, 2016). In the quest for measuring accessibility many authors and many different measures exist, often not contributing to the validity of the methods of measuring accessibility. Higgs, Fry & Langford (2012) as well as Comber, Brunsdon & Green (2007) have argued for a gis-based analysis.

“Our findings demonstrate that not only will the distances to green spaces vary according to the methodologies adopted but that any study that aims to investigate relationships with attributes of the nearest green space should acknowledge that matches may vary widely according to the techniques used. We conclude by warning against the use of inappropriate methodologies in examining access to green space which may directly influence directions (and levels) of association and hence may limit their relevance in wider geographical contexts” (Higgs, Fry & Langford, 2012 p 326)

Although the exact measuring of accessibility seems to be open for further research and discussion, this does not mean that accessibility is not discussed when planning green space. More often this discussion takes a social and justice take on accessibility. This challenge is also visible in Haaland’s overview as she states the paradox of consequences of close access to green space. On the one hand proximity to green space increases living and health standard for a neighbourhood, on the other the proximity to green space increases housing prices pushing out the poorest of the people to other areas of the city with lesser green space or less high quality green space again increasing social segregation (Haaland & van den Bosch, 2015).

Accessibility in the Dutch discussion often concerns the lesser abled people living in the city. People in wheel chairs, elderly, visually impaired and strollers are faced with obstacles all throughout the city. There are reports on how to increase accessibility of public space (Vilans, 2008). These focus mostly on pavements and infrastructural safety. Tanking out bumps, smoothing pavements and wheelchair slopes. There is no question on whether these measures are better for the city.

Also nature organisations pride themselves on their accessibility to one and all. Natuurmonumenten, one of the Dutch nature organisations and owners has 40 places where accessibility is being increased. Safe nature playgrounds, wider paths that are walkable for wheelchairs and other mobility vehicles are added to the naturescape. *Groen ontwikkelfonds Brabant* (n.d.) established in 2014 identifies three objectives when making a green space accessible for all. Physical accessibility, as is described above, social accessibility, making everybody feel welcome in the green space, and last the accessibility of information about the green space. The latter is also visible for Natuurmonumenten (n.d.) as they provide extensive information on the state and materials used in pathways, the steepness of hills and where there are resting spots.

However, the case of urban green space accessibility, provides yet another paradox. Does the feeling of safety created by street lights have more value than the safety and home of bats and birds that are scared off by these same lights. Dirt roads add to the aesthetic of the area and make easy passing for water and plants, yet they do keep people who have difficulty walking from accessing these green spaces as the mud and gravel will make them slip. In other words to what extent should nature be for nature or for humans?

Lastly accessibility also has to deal with national law, which restricts access. Between April 1st and August 15 certain areas are closed or partially closed off to the public because of nesting birds (Wet natuurbescherming,). At the same time national policy also wants to see more people interact with nature, mostly out of health considerations. The task and challenge for planners and

municipal policy is to find a balance between nature values and human accessibility.

These challenges, segregation vs increasing proximity to green space, walkability vs animal habitats, policy vs policy, provide for a wide range of combinations, greening visions and interventions. In the results it will become clear what the Dutch municipal vision on this is. Again the tiny forest program takes on a unique take combining high nature values such as native trees and low management with a social and educational aspect giving access to schools and residents through learning, playing and managing these tiny green spaces.

3.1.4. Conservation and management of green spaces

The fourth area of consideration in greening policy, as already hinted on in the above, is that of management. To what extent do we let nature run its course and when do we intervene and for what reasons. This is also where the before mentioned nesting season plays a role. When there are nests it is not allowed to prune or mow any time of year (Vogelbescherming, n.d.). The nesting season policy is but one example of national and international laws and policies that try to protect and preserve nature. The endangered species list is another example.

Even before 1995 when Rob Jongman wrote his paper on *Nature conservation planning in Europe: developing ecological networks* Europe has worked on creating nature networks. Jongman emphasised again, like Higgs, Fry & Langford (2012) in the case of accessibility, the need for an unilateral assessment strategy that would allow for the assessment and comparability of nature development. National governments have adapted these European policies and in the case of the Netherlands the National-nature-network was implemented, before 2017 this was called the Ecological-main-structure (Figure 9). These kind of networks are of national importance and responsibility, however, they obviously have an effect on municipal levels.

On the more local, and for this study more relevant level, municipalities most of all have to deal with the everyday nature and green space, the types describe in the typologies above. Parks,

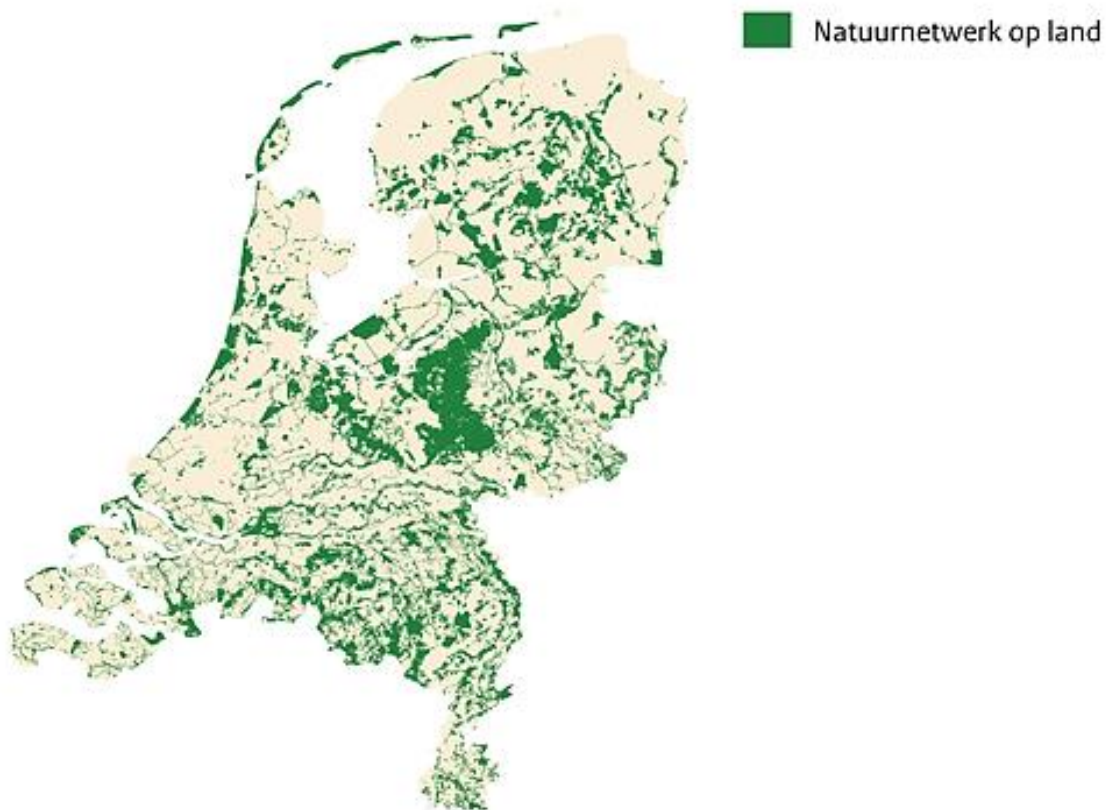


Figure 9. The Dutch National-nature-network, 2017 (IPO, 2017)

lanes, commentaries always have had a high intensity management level. Mowing, pruning and when needed exterminating green space for the benefit of the city. As Atelier GroenBlauw mentioned these parks and lanes are a representation of society and wealth, and society is order and clean, taken care of. A nice and visual example comes from the American lawns in California, where the government had to actively promote a change of landscaping from grass lawns to a more desert type of flora as well as restrict water usage per household. People kept on watering their lawns to have the aesthetic feel of a nice house, even though the state was dealing with water scarcity (Jerome, 2018). When browsing park maintenance sites in the Netherlands, words like, neat, well kept, clean and taken care of are very common. Alongside lines describing how people can enjoy a day in the sun lounging on the grass or playing in at the playground. The look a park has says something about the society it is situated in and although these parks and urban green spaces take on many shapes and sizes there is always some form of maintenance.

Another reasons why maintenance is taken on is safety. Bikers, car drivers and other vehicles need to be able to safely use roads. There needs to be clear vision and no obstacles on the road that could hinder or endanger its users. By law the waterschappen and other road owners like the municipalities have to ensure safety on the road (Scheldenstromen, 2017). Safety comes before nature. As waterschap Scheldenstromen explains when possible nests and other habitats will be spared but in no extent can the safety of traffickers be endangered. These safety measures often amount to mowing and planting.

This fourth area of consideration is mostly related to the last of the challenges provided by Haaland & van den Bosch (2015). The challenge of juggling institutional regulations, when to prune, when is safety at risk, and what regulations and policies are we to follow when they are contradicting each other? Again the planner and policy maker have to make choices in this challenge that find the middle ground between nature value and public values and safety.

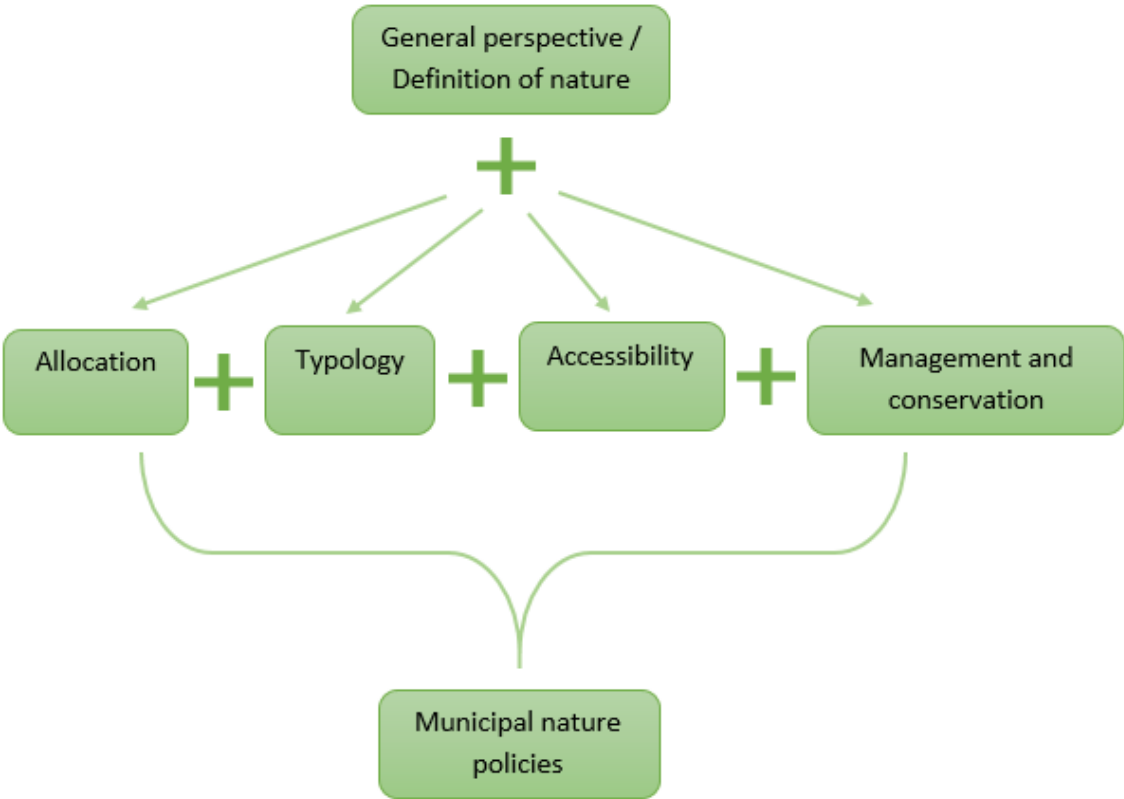


Figure 10, conceptual framework

In each of these four areas of consideration planners and policy makers make choices. Each choice will have an effect on the intended outcome of greening policy and the combination of the four together with the definition, or in lack thereof, general perspective of nature create the urban green space vision for a municipality. This concept is visualised in figure 10.

3.2. Buzzwords

When making all these choices planners and policy makers have a vision or a notion of what is better, be that better for the most, or the minority, for nature or for man. All these choices in the name of greening, or in a wider context climate adaptation, sustainability and development. Yet what does it mean to advocate greening, is there a rule to the above mentioned areas of consideration or is everybody just doing what suits them. I am in no scene saying that there is anything wrong with winging it, this often brings forth new and innovative aspects of urban living, yet it is important to be critical of the definitions and notions that legitimize our planning policies as they might not mean what we think they mean.

In 2007 Andrea Cornwall started her paper on buzzwords and fuzzwords with stating the following; *words make words. The language of development defines worlds-in-the-making, animating and justifying intervention in currently existing worlds with fulsome promises of the possible.* Her paper analysed the words that circle development jargon, however the key message stays the same for many theory and policy documents. Words don't have to try very hard to become a buzzword, that is all up to the people using them. In the following paragraphs characteristics and key indicators of buzzwords will be outlined.

Cornwall (2007, + Cornwall & Brock, 2005) stresses the importance of understanding 'the meaning of the word' in the case of development terms. She states that development buzzwords are more than passwords to funding and influence; and more than specialist jargon. In her 2007 article Cornwell first asks why should we understand the language of development if the development is being done? Her answer, partly cited from Gilbert Rist; that development has become such a shibboleth of modern society that it has become taken for granted. As such it "*leaves much of what is actually done in its name unquestioned*" (Cornwell, 2007 p 471).

In the case of nature development slightly less of an ethical aspect is involved than when we question what is poverty and if we should or should not do development in third world countries. However, nature development and especially urban nature making has a huge impact on the limited space available in the urban environment. The ethical question then becomes one of justice. Is it right to use "this" space for nature development or should "we" as planners have made a different decision (Campbell, 1996). It is for the legitimisation and justice of greening that it is important to understand what nature development is and to be aware of the multifaceted nature of a word, especially in a political context. In 2010 Leal wrote a similar study on the word participation, illustrating how in order to become useful for modern politics, participation, which in his words are a radical proposal, has been decapitated by politics losing its philosophical and ideological meaning.

Where Cornwell focusses more of the philosophical definition Edward Schiappa states the following:

I am advocating greater emphasis on the ethical and normative ramifications of the act of defining. It is my belief that many important problems that people face in a variety of roles—as citizens, family members, employees and employers, scholars, among others—might be faced more squarely and productively if they approached definition as constituting rhetorically induced social knowledge.

Definitions put into practice a special sort of social knowledge—a shared understanding among people about themselves, the objects of their world, and how they ought to use language.
(Schiappa, 2003 p 3)

According to him it is important to not only understand the word but also understand the consequences of the definition. Schiappa stresses that all definitions are political, be that some definitions are of larger importance than others, for two reasons. First, they always serve particular interests, and second “only definitions of consequence are those that have been empowered through persuasion or coercion” (Schiappa, 2003 p 69). Especially when legitimizing planning policy it is important to be aware of meaning and the intentions and consequences of that meaning.

3.2.1. Characteristics/How to recognize a buzzword

As illustrated above every definition is one of politics and constructs, yet not every word is a buzzword. So what characterizes a buzzword, how can we take them apart from the rest of political and planning jargon? For this we go back, first to Cornwall (2007) who identifies some of the qualities of buzzwords (Table x, slightly adapted to fit this study) and add to her qualities the functions of buzzwords as described by Mjos, Moe and Sundet (2014) and Palmer, Cooper & Van der Vorst (1997).

A buzzword is not just a buzzword when it ticks of just one of these boxes. It needs to tick of most of the qualities above and of course be used regularly. Bluntly said, buzzwords have the allure of something just what that something is, is not all that clear or the same for everybody. One of the most commonly used examples of buzzwords is sustainability. Sustainability 1. encompasses an idea, that 2. legitimizes development and intervention in the urban space, it 3. simplifies a wide range of interventions that correlate with the 4. notion of what is sustainable. And much like the term development and more recently greening is 5. never left out of planning policy.

Table 3, Qualities and characteristics of buzzwords (Adapted from, Cornwall, 2007; Mjos, Moe & Sundet, 2014; Palmer, Cooper & Van der Vorst, 1997)

Buzzwords...	
<i>... are a universal desire</i>	It is something everyone wants but precisely what it encompasses varies between individuals and even changes over time.
<i>... Sound intellectual</i>	Academic definitions change as they become of service in politics.
<i>... Are In-Words</i>	They can change meaning over time, they linger for a while and resurface over time. The words can be expanded or slightly altered over time, and thus do not always resurface in the same spelling.
<i>... are something new</i>	Although old words, buzzwords give the promise of something new.
<i>... Are a compulsion</i>	External agencies make their use in proposals, policies, strategies and reports compulsive. If you do not mention them the report is not worth reading.
<i>... are legitimizing</i>	Because they inhabit something everyone wants, although undefined they legitimize actions. Doing something in the name of ...
<i>... Do not just cloud meaning</i>	They combine performative qualities with an absence of real definition and a strong believe in what the notion is supposed to bring about.
<i>... Simplify</i>	It simplifies a grander scheme of ideals, ideas and concepts into one word.

For this study the buzzword theory comes in at the first stage and last stage of the conceptual model. The starting point where a working definition is put in place that encompasses the notion of

what is needed in planning and greening. Then again in the last stage where the policy is put to paper and the notion is sold to the residents and municipal government. In the middle it is expected that the term greening is more concrete as it is specified in a certain context. The four areas of consideration might help in defining the term, jet also illustrate how different the interpretation of greening and green space can be per municipality.

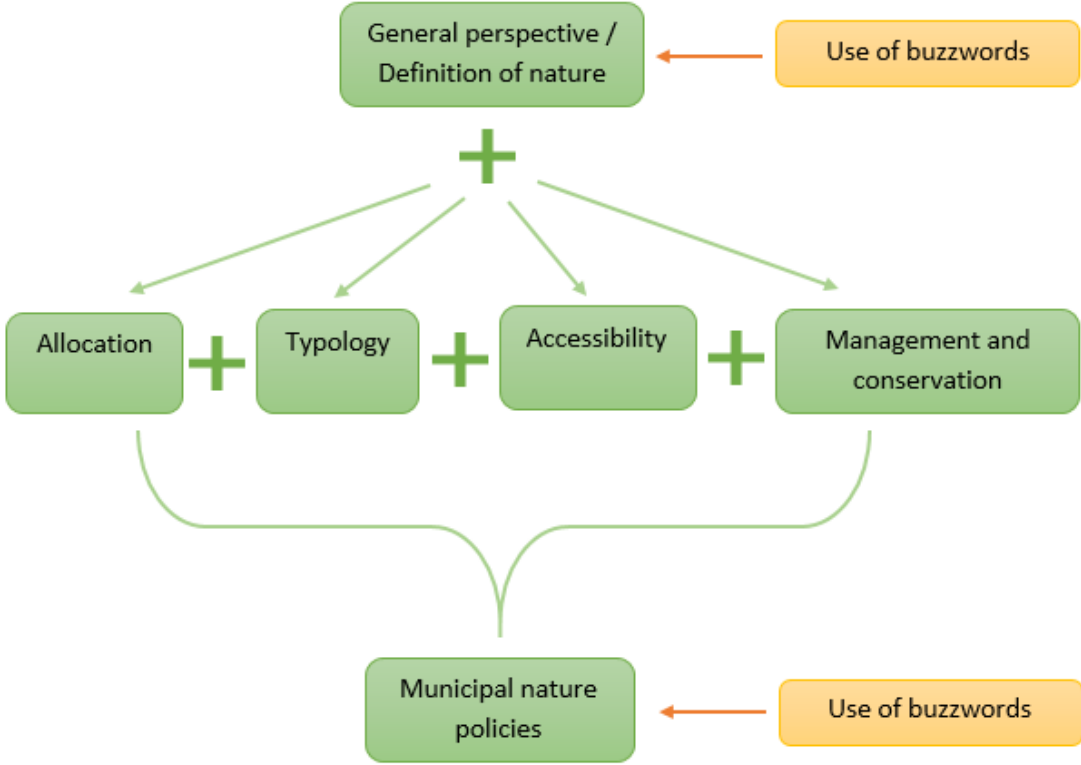


Figure 11. Conceptual framework 2.0

4. Results

Greening cities, a buzzword, maybe? In this chapter the data collected from the policy documents and the interviews will be turned into results. As will become clear most municipalities have a clear set of ideas on how and what nature development and greening the city means in their city. However, as will also become clear, this definition differs per municipality, while they do all speak of greening and valuable landscapes. First a general overview of the policy documents and their content will be given followed by a comparison of definitions. Then the dangerous step of creating a definition for all will be taken, allowing for other municipalities to take aspects of these and the final definition when working for then selves. After that differences in approach according to the four principles of consideration will provide a more clear insight in what constitutes the differences in definition and vision. Last a short analyses of the characteristics of the term greening will be given, giving insight in the level of buzzwordiness that the term provides.

4.1. Use of green in policy documents

4.1.1. A wide range of documents and the new *Omgevingswet*

The first thing one notices is that all municipalities have either a *structuurvisie* or *omgevingsvisie*, as this is mandatory, alongside a multitude of leading policy documents containing nature or greening policy (Table 4). Nature development is always part of the *structuurvisie*, however the place it takes in policy differs. For Almere for instance greening is part of their overall vision and as a result is woven through the entire document. For Utrecht, Apeldoorn Also often in paragraphs on housing climate and living conditions nature plays a part in realising the set vision. Take for instance Apeldoorn who identifies as an outdoor-city (*Buitenstad*). In their *structuurvisie* they aspire to guide development according to five principles one of which illustrates the statement above. *“In de buitenstad heeft elk gebouw een eigen of gemeenschappelijke tuin en is openbaar groen op loopafstand aanwezig.”* (Apeldoorn, 2012) This roughly translates into: In the outdoor-city every building has its own or communal garden and there is public green space in walking distance. They describe their city as being city, village and rural at the same time, it is outdoor but also a city (Apeldoorn, 2012).

Aside from the mandatory *structuurvisies* all municipalities have additional nature policy. This can vary from what most call the *groenstructuurplan* (green-structure-plan) to species lists and guidebooks for green development. These additional policy documents contain a much more detailed recollection of what municipalities intend to do with their green space. They mostly include lists with examples and references stating what needs to be preserved, the existence of special habitats and lists with flora and fauna inhabiting the urban space. The municipality of Utrecht has multiple of such documents namely, the guideline for careful management and maintenance in Utrecht municipality (Utrecht, 2017), as well as the Utrecht species-list (2018). The later functioning as a data file that helps the municipality keep track of numbers and habitats of all the species in and around the city. The first functions as ethical code for municipal acts, and provides tasks and guidelines for the municipal government.

Another such an ethical code can be found in the Tree-policies (*Bomenplannen*), these are more focused on management of trees and the preservation and registration of valuable trees in the city. Later on there will be further detail on such management policies. It is noticeable that almost all municipalities have a tree specific policy available, in the case of Goes, being the exception, they maintain the national policy when it comes to all nature policy explaining the absence of municipal policy. In table 4 an overview of the publicly available and for this study analysed policy documents is given. Not included in this table are plan concerning only water, although often brought in direct relation to greening and part of the typologies, they are part of an separate stack of polices.

Table 4. Available policy documents with direct relation and reverence to greening.

Municipality	Structuurvisie	Omgevingsvisie	Groenstructuurplan	Leidraad Groen	Boom specifiek beleid	Landschapontwikkelingsplan
Almere		√			√	
Alphen ad Rijn	√		√		√	√
Apeldoorn	√		√		√	
Den Bosch	√		√		√	
Goes	√					√
Groningen	√	Concept available			√	
Hardenberg	√				√	√
Leiden	√		√		√	
Maastricht	√	Concept available	√	√	√	
Meppel	√				√	
Uithoorn	√		√		√	√
Utrecht		√	√	√	√	

In the Netherlands a change has been made in municipal policy document formats. Where before there were multiple documents, as stated before, by the end of 2019 most municipalities will make the switch to an *omgevingsvisie*, this document is supposed to replace and encompass all previous spatial policy documents and create one big policy document (Gabry, 2013). This results in that most of the participating municipalities are currently in the stages of developing new or updating nature policy rather than really living by the existing ones. Maastricht for example has a separate department currently working on creating a new green-structure-plan which in time will be summarized and included in the *omgevingsvisie*. Alphen aan den Rijn and Uithoorn are other examples of municipalities currently working on updating their nature policy. This allows them to rethink their working definition and also see certain changes over time. It seems as if municipalities have taken on the opportunity and are maybe forced to revisit and rewrite their nature policy with the mandatory switch to the *omgevingswet*.

For some municipalities like Uithoorn for instance this results in that the current green and nature policies date from the early 2000s, and are as they also notice themselves a bit outdated. In these cases the interviews provide data on the current state of affairs. For municipalities like Uithoorn who are still debating greening and nature development most discussion surrounds the question of what is the end goal. Like Uithoorn, Maastricht is still discussing their new green development plan.

During a participation event with both municipal officials as well all community and nature organisation representatives they identified that in the document as it was then this end goal was still missing. The question of when is it enough is hardly ever fully answered. We need more and we need better, but when is it enough, time will tell. Most mentioned as an area of what can be better is diversity, in both flora and fauna, as well as accessibility and quantity.

When focussing on the most accessible planning policy, the *structuurvisie*, green space rarely has its own chapter. Often it is combined with themes like agriculture, recreation and water vision. Table x provides an overview per municipality of where in the policy greening is mentioned and plays an essential role to the policy.

Table 5, location of greening/nature policy in the structuur- & omgevingsvisie.

	Throughout the whole policy (<i>structuurvisie</i>)	General vision	Part of green, water, landscape policy	Part of public space policy	Part of climate policy	Part of Housing policy	Part of recreational policy	Part of economic / business policy	Part of Health policy	Part of agricultural policy
Almere	X	X	X	X	X	X	X	X	X	X
Alphen ad Rijn		X	X	X			X			
Apeldoorn	X	X	X	X	X	X	X	X	X	X
Den Bosch			X			X				
Goes			X				X			X
Groningen				X	X	X				
Hardenberg				X					X	
Leiden	X	X	X	X	X	X	X	X	X	X
Maastricht	X	X	X	X	X	X	X	X	X	X
Meppel		X	X		X					
Uithoorn		X	X				X	X		
Utrecht		X	X	X					X	

4.1.2. A closer look at the content of the policy documents

When looking closer at the language of the policy documents a number of words in relation to nature and especially greening and green space keep on coming back. Figure 12 provides an word web of these terms and, as they form groups encompassing the same theme or ideal, they are divided into overarching themes. Often these terms are used to illustrate the same theme or all-encompassing idea, like the allocation or management of green space.

Noticeable from the figure below is that some of the themes and subjects related to greening find a connection to what Haaland described and to the areas of consideration as proposed in this study. Allocation and management are included in the policy documents. Mostly though mentioning locations or areas, like the green fingers and corridors that enter and stretch through the city.

Another sign of the allocation debate lies in the quality vs quantity subject. When dealing with larger, denser cities like Utrecht, Groningen and Leiden, the focus seems to shift from a quantity approach to a quality approach. This does not mean they do not want more green, they have just realized that within their city boundaries there is not enough space, and then challenges like housing

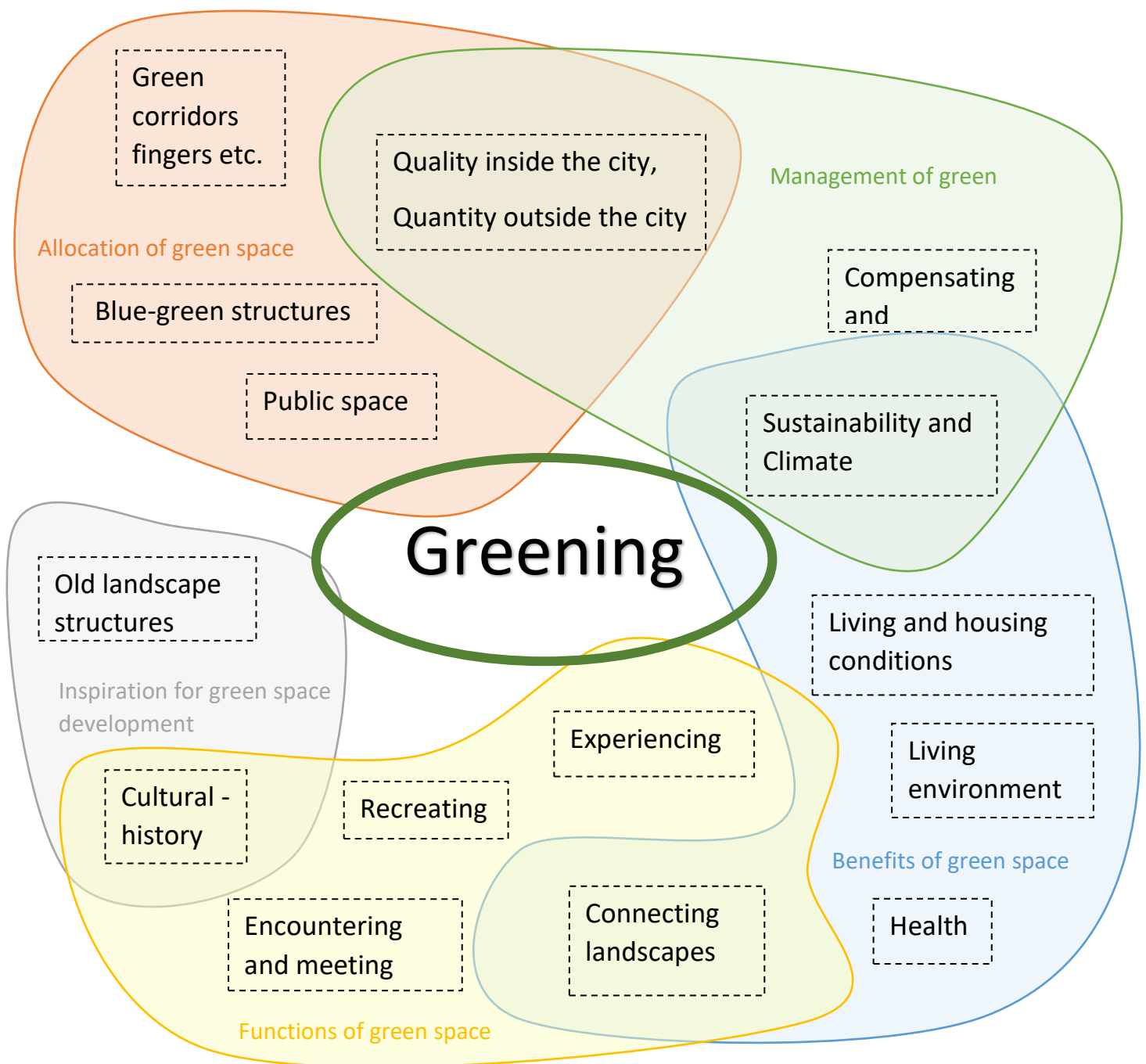


Figure 12, Word web of themes and subjects mentioned in relation to greening in the policy documents

and services gain priority over greening. They in turn specifically focus on the quality of green space. For example Leiden mentions in their *structuurvisie* that within their city no substantial new green space will be added, they will though, focus on increasing quality, by connecting blue-green structures and accessibility.

Management is not necessarily mentioned in the *structuurvisies* in the way in which management has to take place, like for instance the pruning and mowing mentioned in the previous theoretical paragraph on management, but more in relation to what the goal of management is. E.g. compensating green space when it is lost to new housing projects, as well as having ecological or climate friendly management through floral roadsides and regulations on pruning and mowing. More on this will follow later. Typology and accessibility are also included in policy however to a lesser extent or as part of one of the subjects in figure 12, explaining why it is excluded from the figure.

However, in addition to management and allocation, a couple of new topics in relation to greening are noticeable. Functions and benefits as well as inspiration for development of green space seem to be very important in planning policy. It can be argued that function closely relates to the typology as a function results in a type of space and the other way around some typologies lend themselves for certain functions, they are however not the same. These three subjects will be further explained in the following sub-paragraphs as they are not mentioned in the theoretical frame.

Functions of green space

Especially the way people make use of green space seems to be of importance to greening policy. People need to be able to enjoy, experience and live green space. There is not one *structuurvisie* that does not mention some way of people positively using the green space. These spaces are designed with the goals of providing resting places, sports, meeting places and recreational areas. Although the recreational activity, like sports, agriculture or meeting someone on a bench are not necessarily perceived as green activities or green functions of space they are considered part of a green space and part the larger scope of green spaces throughout the city.

Seven out of the twelve municipalities directly mention greening in their chapter on recreation. During the interview Utrecht also states the function which green space can have as one that is not necessarily a green or nature function. This aligns with the fourth challenge of Haaland. Recreation adds a value to green space. Both in an economic, through entrance fees and the catering industry, and social way, again health and social benefits. It seems to be a requirement to give green space such an additional function in planning policy in order to make it relevant for the city and to legitimize its development.

Benefits of green space

One of the benefits mentioned a lot considers housing environments and so called pull factors of a neighbourhood. Nature adds something to neighbourhoods, what exactly this something is can differ. More space, wider setup of the neighbourhood, shade provided by trees and just the green look are among the things mentioned. Also in relation to benefits in the neighbourhood health benefits are often mentioned. In Utrecht health is a large part of the way the municipality identifies itself, greening being a part of this on many levels, like housing, sports and recreation. In this the proximity of green space seems to be the key. More on this will follow in the city vs nature paragraph.

The slightly more negative side effects of this, e.g. initiating segregation and social diversion, as mentioned by Haaland seem to be left out of the planning policy documents. This could mean two things, either they are not of relevance for the Netherlands or are unknown to policy makers and are thus left out, or and the more likely option in my opinion, the positive effects outweigh the negatives and are considered as a selling point for greening and the vision as a whole and thus the more negative side is largely left out.

A second theme in which nature benefits the city and its people is climate



Figure 13, Municipalities taking part in project operation steenbreek (Taking stones and tiles out of pavements and replacing them with green space). (Source, stichting steenbreek, 2019)

adaptation and sustainability, these two often mentioned in the same sentence. Whether greening is mentioned in a chapter on sustainability or the other way around sustainability mentioned in a chapter on greening, the two seem to be inseparable. One example that perfectly illustrates the correlation of greening and climate adaptation is *operatie steenbreek* (Figure 13), where green intervention is done with the purpose of becoming more climate adaptive. When compared with the map of participating Tiny Forest municipalities all, with the exception of Den Bosch and Almere also participate in *operatie steenbreek*.

The following citation illustrates the above mentioned statements about functions and benefits.

“Deze parkgebieden zijn nieuwe plekken voor ontmoeting en beweging, die bijdragen aan het versterken van de sociale cohesie en de gezondheid. Door de lagere ruimtedruk ontstaat in de woonbuurten meer plek voor water en groen. Vooral in de buurten met weinig tuinen en openbaar groen zullen de komende jaren groene plekken worden toegevoegd. Dit is goed voor de woonkwaliteit en een aantrekkelijk vestigingsklimaat. Het draagt tevens bij aan het realiseren van een duurzame klimaatbestendige stad, want door klimaatverandering is de verwachting dat in de toekomst meer zware regenbuien, vaker hoogwater van de Maas en meer hetere periodes zullen plaatsvinden. Door meer ruimte voor water en groen te creëren kan de stad zich hieraan aanpassen en zo de overlast minimaliseren.” (Structuurvisie Maastricht, p 17)

“These park areas are new spaces for meeting people and exercise, that contribute to strong social cohesion and health. Because of the low pressure on the space these neighbourhoods provide more space for green and water. Especially in neighbourhoods with few gardens and public green space more green space will be added the upcoming years. This is benefitting the housing quality and housing climate. It also contributes to realising a more sustainable, climate adaptive city, because of climate change the expectation is that in the future more and heavy rain, high waters in the river Maas and more periods of extreme heat will occur. Through providing space for water and green the city can adapt and minimize consequences.” (Structuurvisie Maastricht, p 17)

Inspiration for green space development

The third theme which is often mentioned in relation to green development is that greening and nature development has to mirror older more primal structures of green and urban spaces. In Goes for instance the goal of nature development and greening policies states that it would if possible be optimal if the old tree structures and dikes where re-entered into the landscape. However the representative of Goes mentioned; “We may want this, but it is not possible everywhere, this is not necessarily bad, I would like it, but people and opinions differ on what is good nature development and greening. The new is not necessarily worse than the old.”

Second the cultural-historical aspect of a place creates an inspiration for nature development. In Utrecht four mayor cultural historical landscapes meet each other (Groenstructuurplan Utrecht, 2007). The limes (Roman history), the Zocherplantsoen (Medieval defence structures), The Nieuwe Hollandse Waterlinie (Defence structures from the early 19th century with the purpose of flooding rural areas) and large country estates and castles with their monumental forests and gardens, come together in Utrecht city. The historical value of the landscapes forms the inspiration and vision for nature development in and around the city (Groningen, 2018).

This historical value and inspiration correlates with one of Swyngedouws (2006) initial assessments, namely the need and desire to bring nature back to a more benign or (pre)historical state. In the case of the Netherlands this state is not one of prehistorical levels but this need for the past, and the idea that that past is beauty in greening, largely influences visions on greening on a municipal level. Even the tiny forest programme hinges onto this idea. Although not explicitly mentioned as such the tiny forest programme promotes the reinstatement of native plants and trees, be that small scale and give a bit of forest back to the urban environment so to speak.

At the same time this idea of going back is combined with the idea of moving forward. New innovations and forms of green space, like the tiny forest, are entered into the city as part of this plan to bring back the older structures.

4.2. Finding a definition for greening

When asked for a working definition most respondents seem slightly taken back. Not all municipalities have a working definition. They all do have an idea or personal definition that they take into their work. Like in the literature not one socio-natural relation exists. Definitions mostly vary on the human versus non-human spectrum of the debate. This multitude of definitions already hints at a buzzword status for greening. This will be further elaborated on later on in this chapter.

Noticeable is as mentioned before the need for nature and green space to have a function for human life. Nature needs to be experienced and enjoyed. Also, slightly paradoxical, nature, to whatever extent possible is left to its own devices, without too much human intervention. This is also where the separation of green and nature comes into play as is illustrated in the following paragraph.

Table 6, Working definitions derived from the interviews

Municipality	(working) definition
Alphen aan den Rijn	“The ultimate nature goal is a place without people, but we don’t have the space for that in the Randstad. So nature needs to be experienced and needs to ad to health or biodiversity challenges in the city. And then there is agricultural green, which has a very clear food production goal.”
Apeldoorn	Does not have a definition, they have created goals to give more concrete substance to the term greening. These goals, each with their own sub-objectives are; Green space needs to contribute to better living conditions for people and flora and fauna; it needs to invite people to meet each other; it needs to be beneficial to health; it needs to provide space for climate adaptive measures; it needs to increase biodiversity; and it needs to contribute to a better soil.
Goes	Nature is uncultivated, but can be used for and by a multitude of things.
Maastricht	“Nature in the urban and surrounding landscape is something where human influence, management and maintenance is brought back to a minimal. Leaving it to the elements and in such creating a landscape and biodiversity that belongs here.”
Uithoorn	No real definition mentioned

Utrecht

Green is more than nature, green space has flora however it does not need to have a nature value but can also have a recreational or cultural-historical value.

Rather than defining what is green, some municipalities have clearer ideas on what is not. The representative of Goes for instance states that nature is uncultivated, and the representative of Uithoorn mentions that weeds are probably no longer green or nature to some people as they are seen as a sign of neglect. Utrecht, Maastricht and Alphen aan den Rijn all state that something is no longer green when it is completely hardened, made up out of bricks, asphalt and tiles. In this question of what is and what isn't the division between the natural and the human creation becomes more clear.

4.2.1. Green VS Nature

Green is never the same as nature. Opinions differ however on whether green is part of nature or nature is part of green. Like shown in Utrecht "green is more than nature" it can have a function beyond the natural. Apeldoorn also states that green does not necessarily have to represent a nature value it can have another value. The previously mentioned functions of green space are just a small scoop of the functions of green space. Davies, MacFarlane, McGloin & Roe (2006) already list some of the functions found in this study in their green infrastructure planning guide. On the other hand Maastricht and Alphen aan den Rijn argue that nature exists on a higher level in the nature pyramid than green space, nature is a more pure version of green space than urban green space. It has a wider spectrum of flora and fauna and has a sense of agency as it creates and governs itself when people do not interfere. Table 7 shows how nature development and greening differ from one another.

The most common difference between nature development and greening relates to human influence on the space. As Maastricht verbally and visually illustrated through a walk through the city, nature needs to be left to manage itself. Men can only provide opportunities to nature, give her space and time but nature has to run its own course. Alphen aan den Rijn and Utrecht give men a little more of a job in nature, they argue that aside from providing opportunities you need to create the right circumstances for nature to thrive and expand (Utrecht Interview). The representative of Apeldoorn says, "we constantly make nature". These three visions on who makes nature stretch from one end of the spectrum of human intervention to the other.

Green, all interviewees can agree on, on the other hand, is always created. This might also explain why nature more often is associated with the outside of the city and as something primal, and green more often as part of the urban landscape, this being mostly manmade.

Nature and greening in general have a very distinct separation. Although it is to be expected that nature has lesser human intervention than green space, even for nature this degree seems to differ between municipalities. This further blurs the lines in finding a definition for greening as nature for some municipalities has become the same as greening for others and vice versa.

Table 7. Differences between nature and greening

	Greening	Nature development
value	Natural, Historical or Cultural value	Nature, flora and fauna
Function	Recreation, health, increasing biodiversity, sport, climate adaptation,	Increasing biodiversity, health, climate adaptation Education

	Education Etc.	
Management	When safety is a concern, depending on the location when the aesthetic of the green space is being lost	As little as possible, when it is to the benefit of nature manages itself
Human role	Large	Minimal

4.2.2. Time VS Nature

During the interview in Alphen aan den Rijn one of the interviewees pointed out that the vision and definition on what is green and nature and especially the value of green changes as society changes. With the change of government and the passing of the years they notice that the idea of what is quality green space changes, the standards change. This also already correlates with the characteristics of a buzzword, as meaning and value change over time.

However most of the time these changes in policy and ideas of what makes good green space is effected by budget changes, as is noticed by multiple municipalities. In times of recession and budget cuts maintenance costs are kept at a low and as a result low cost green space is created often resulting in lower quality green space. In time of economic growth more expensive species are planted. Greening thus not only have economic benefits as a result of recreation and increased housing prices also the costs of greening are depended on the economic shifts in time.

On the path of finding a definition for greening it becomes apparent that there are more or less three main directions this takes, both in defining green as well as in nature. Namely the non-intervention, the intervention and the middle ground. Although one single definition for greening that encompasses all might still be too far from reality and will most likely change over time, the following will be a start.

Greening: Increasing quality and/or quantity of natural elements in public space with the goal of giving nature a secondary, urban function making that space desirable and experieanceble for people, while making it more biodiverse at the same time.

4.3. The four areas of consideration

Table 8. Spatial green pattern that mostly resembles the city.

Greenbelt pattern	Alphen a.d Rijn
	Goes
	Uithoorn
	Almere
Green corridor pattern	Den Bosch
	Maastricht
	Leiden
	Groningen
	Meppel
	Hardenberg
	Utrecht
Fluid pattern	Apeldoorn

In the following the municipalities will be compared according to the four areas of consideration as they are presented in literature. Through these areas of consideration greening can become more concrete. As can be seen in the case of Utrecht and Apeldoorn, greening is slit up in multiple themes and goals and made specific for certain areas of the city.

4.3.1. City VS Nature

Allocation is the first of the four areas of consideration as proposed in the literature. Most of the municipalities that took part in this study have an allocation pattern that correlates with the second vision, of fingers and corridors. Maastricht is used as an illustrative example. This implies that municipal policy thinks of nature as something that can exist in and through the city, while at the same time having specific spaces for green and build spaces.

This aligns with what was spoken about during the interviews. Both Utrecht and Maastricht for instance argue that green space needs to be connected and function as networks between larger nature or green spaces. Connection with the outside of the city as well as within the city. These networks or green infrastructures meander through the city. Alongside this a number of city parks exist creating a spotted pattern of green space throughout the city.

In second place is the greenbelt spatial pattern. In Alphen aan den Rijn the interviewees explained how their city has had to deal with a very strict red-border-policy. This policy was composed with the purpose of keeping the green hart, the green space in the middle of the Randstad, open and for green and agricultural purposes, containing building inside city limits. However over the last couple of years national and local governments have had to admit that with the increasing housing demand it might not be possible to contain building to the larger Randstad cities and some of that pressure may have to be lifted by cities like Alphen aan den Rijn and expanded into this greenbelt (Interview Alphen aan den Rijn, 2019).

Although this strict red-contour policy means that the first priority for the municipality is to realise as much of the needed housing development inside the city limits this does not mean green space is pushed out of the city. Green space that is of value and meaning to the city and its residents needs to remain. This explains the green space which slightly enters the city on the right. Alongside this, old infrastructures like dykes, bring green space and the surrounding landscape into the city.

Like Alphen aan den Rijn, other municipalities like Goes and Uithoorn also have specific policies for the outer city regions of the municipality. What makes Alphen aan den Rijn, Uithoorn, Goes and Almere into green corridor cities is their main focus in policy lies in the development of high quality



Figure 15, green corridors, clusters and city parks in Maastricht.

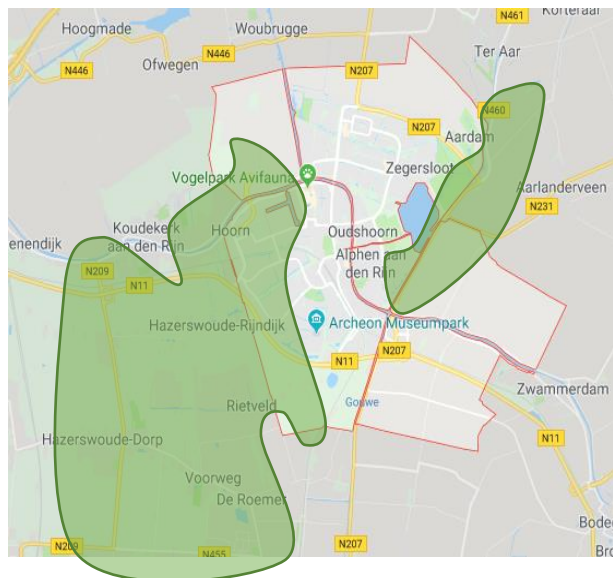


Figure 14. Green space pattern of Alphen aan den Rijn as an example of the green belt pattern.

green space outside the city, in combination with improving infrastructure leading to these green spaces. As these cities are slightly smaller, with smaller distances to the outside of the city and they have a relatively large open space outside the city, used for agriculture or nature, the need for a focus on inner city green space development might be of less importance considering the high quality green space in close proximity.

However as pointed out during the interview with Uithoorn as well as the one in Alphen aan den Rijn, bringing green space into the city is of more and more importance. In Uithoorn old brook structures are brought into new housing developments, as well as adding ecological zones and green spaces between neighbourhoods (Interview Uithoorn, 2019). Uithoorn is not the only municipality that seems to be making this shift to a more green corridor spatial pattern. This shift is most likely due to the fact that building can no longer be solely contained inside the city and the awareness of the importance of green space is growing, and thus compensation needs to be found inside the city. The increasing distance to green space might also play part in this.

The last spatial pattern is not really all that represented in the Netherlands, the municipality that comes closest is Apeldoorn, although as will be elaborated later Utrecht is also making the shift to a more fluid green space pattern. At first sight it might seem as if Apeldoorn is just like the other green corridor municipalities, and to a certain extent they are. With a number of small and larger city parks throughout the city and multiple brooks and rivers flowing into the city the city is an extreme case of corridor green.

Not yet fully a biophilic city as proposed by Beatley but the municipality has undertaken a lot of steps in that direction. Especially the extensive brooks plan brings nature and green space through the city. The representative of the municipality explained how she would from time to time ask designers to start with a green slab and take out what is needed for other functions instead of starting with a black slab and putting in houses and streets and then fill the left over space with green. She concludes that this can lead to a different result. This idea of starting with green also correlates to the biophilic city concept. This development is so small that you need to zoom in to truly see it, yet when

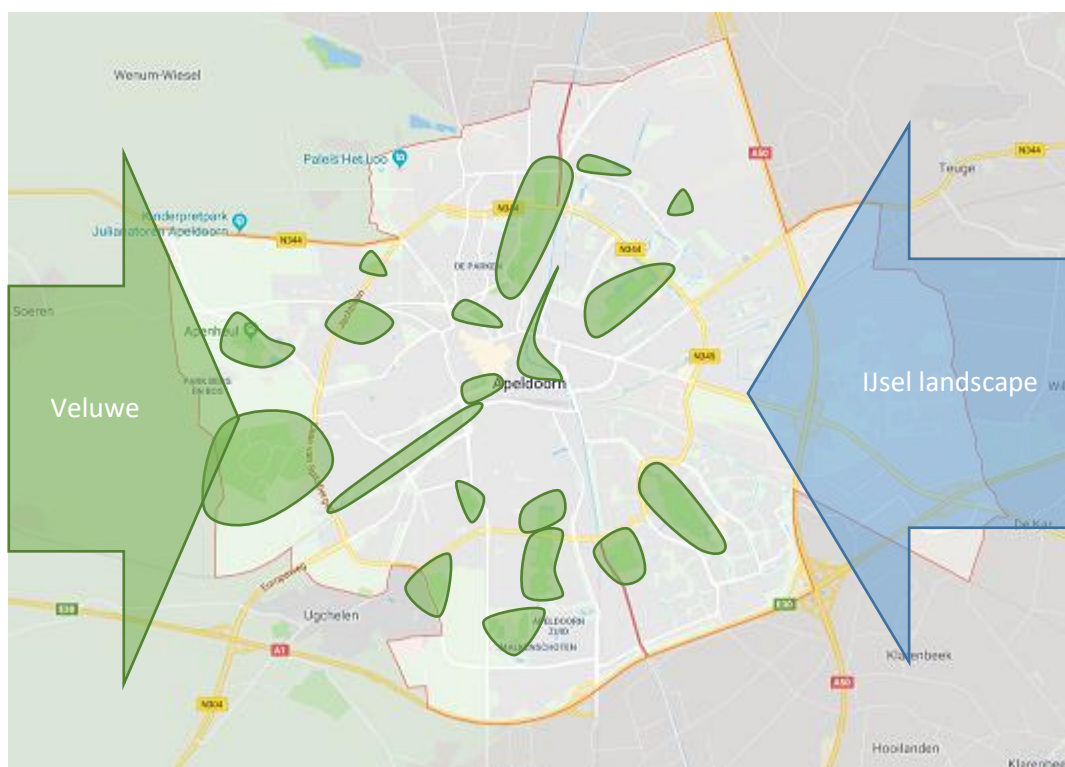


Figure 16. Multiple landscapes entering Apeldoorn, creating a densely scattered green space pattern.



Figure 18. Veluwe enters the city through dens tree coverage alongside the neighbourhood roads. (Google street view)



Figure 17. Entering the city of Apeldoorn from the Veluwe side, main road. (Google street view)

you do you will notice this throughout the city. From the left side the Veluwe enters the city through streets with dense treelines that give the area almost a forestry look (figure 17 & 19). From the other side the Landscape of the river IJssel enters the city through water structures (figure 18).

More important than the physical and aesthetic look of the city is the intention that brings Apeldoorn into this category. Made very clear through the interview it is the intention of the municipality of Apeldoorn to wave green space, or in their definition nature, into the city. The intention that greening policy has is that of enlarging and connecting habitats as well as creating new paces and habitats allowing rare or non-city species to enter the city. The example of the European brook lamprey, a small and rare fish indigenous to the Benelux, as well as the presence of kingfishers in the city centre (and throughout the city) illustrate how nature and the city have come to live with each other rather than next to each other.

The intention of the policy is also why Utrecht is close to fully entering this spatial pattern, the current main green structure still makes it fit into the previous. They have identified multiple, not all natural, habitats and actively create policy and interventions to conserve and expand these habitats throughout the city. Examples of Utrecht making this shift can be found in the bee-bus-stops that have



Figure 19. Water elements as part of neighbourhood structures, through brooks and ponds (Google street view)

even made it to international news (Chadwick, 2019), as well as in the monitoring and managing flight and breeding spots. In relation to the latter Utrecht mentions that birds like swallows and falcons nest in for instance high-rise buildings, these spaces, (registered in the *groenstructuurplan*, species list and *leidraad groen*) may not be natural but nature is fully integrated into the urban environment making it an urban habitat. The lines between what is green or nature and what is urban are slowly fading with interventions like these.

In relation to the last of the three spatial patterns of green space it can thus be said that while most municipalities find themselves in one of the first two patterns intentions and policies are slowly shifting towards a more fluid pattern. Also noticeable is that these patterns seem to succeed each other from the first to the second to the third. With the cities associated with the first pattern slowly moving to the second and municipalities in the second starting to move to the third. At this time in

space the third pattern can thus be seen as the highest level of greening. Although no evidence exist on what is a better spatial pattern and the spatial patterns are also closely related to the historic development of the city and its main structures, as well as their scale, at this moment municipalities seem to strive for that highest, or most desirable level of green allocation.

4.3.2. Different types of green space

The second area of consideration for municipal greening policy is typology. Different municipalities equals different takes on what is important. When analysing this data, it first of all becomes clear that most municipalities will mention typologies in relation to their field of influence. While many like Uithoorn, Groningen and Apeldoorn in their structuur visions talk about garden cities and the quality of having private gardens and their part in the green total, none of them mention private green as part of the top three. In answer to the question why this is they all mention that that is beyond their influence. The representative of Uithoorn explains, we can inform people on this, and we can provide the incentives, like dumping spots for green waste and branches but we cannot force them. All we can do is set the example in the public space, by for instance creating green parking spaces.

The tiny forest is not necessarily noticed as a new typology like proposed in the literature. Moreover it is seen as an example of public-private partnerships and the cooperation between

municipalities and its citizens. This programme also largely contributes to the function of education as stated in the above ().

The top five

With five out of the six municipalities mentioning it as part of their top three of most important typologies in their municipality, (of those five three put it first) public green space and parks are the most important green space in the city. This is also the area in which municipalities can have the most

Table 9. typologies mentioned as most important or most prominent in the municipality during the interview.

Typology	Number of times mentioned as part of the top three
Park/public green space	5
Nature reserves and forests	2
Street green	1
Water	4
Brownfields and business districts	0
Private green space, gardens	0
Trees	2
Urban farming	0
Ecology and city animals	2

direct influence. These parks range from large city-parks like the Maxima-park in Utrecht to small pocket parks and playgrounds on a neighbourhood level (Interview Utrecht, 2019).

Water comes in second place. While water provides its own spatial policy area, when it comes to water safety and scarcity it also form an important greening typology. Maastricht clearly illustrates the many faces of water; In relation to the Maas we have multiple areas of policy, like how to deal with flooding and high water periods, we deal with the economic aspect of water, the types of transport and substance shipped over water and their dependence on water levels. We deal with the climatological consequences in relation to water, increasing rain and longer periods of drought resulting in water scarcity and then there is the ecological and nature value of water.

Greening and nature development cannot be seen separate from climate and economic challenges provided by water throughout the city. Many municipalities also speak of a green-bleu

grid illustrating how these two are inseparable on many levels. In relation to greening one of the most commonly mentioned measures is creating natural shorelines, de-canalizing rivers and streams. The development of new green space is often legitimized by mentioning their water retaining properties. Lowering flood risk and filling up ground water levels are among the most mentioned in the policy documents.

Trees are, although seen as an important part of the urban structure, not always mentioned as the most important typology. Often municipalities deal with trees according to the measure described in national policy, like replanting and preserving monumental trees. In the cases where trees are seen as an important part of greening policy, policy mostly promotes the increased number of trees as part of a larger natural or green structure through the city. Also the wish for increasing diversity of tree species and the use of indigenous species are part of tree policy. Part of this is related to the idea of protecting nature against itself. Insects and diseases that infect certain trees are less likely to spread with a larger diversity of trees (Interview Uithoorn, 2019; Interview Apeldoorn, 2019). It is also often mentioned that trees, or rather tree coverage can help cool the city in times of extreme heat. Especially in larger cities like Groningen and Utrecht these properties of trees are considered an important reason and benefit of increasing trees.

Increasing diversity also plays a big role in the typology of ecology and city animals. As mentioned before in relation to the bee-bus-stops in Utrecht and the batt flight routes biodiversity

and ecology are seen as an important aspect of urban nature. And I am saying nature as this typology is really seen as nature rather than green space. Measure taken in order to profit this typology on the other hand can be green and often relate to other typologies. For instance the previously mentioned diversity of trees and park sizes. An important development for this typology is to increase the diversity of flora and fauna and to provide a multitude of spaces, large or small, all over the city so flora and fauna can use this green network to travel across the city. Again the bee-bus-stops are an excellent example as they are spread all over the city and provide a habitat as well as a network for bees and other insects.

To a lesser extent, and often as a third pick, nature reserves and forests are mentioned, this is often done when the focus of greening lies outside the city and largely depend on national or provincial governance. Goes is the leading example for this. In this municipality greening and nature development is largely dependent on national law. Checklists and policies from national and provincial governments are put next to municipal plans. Nature reserves and forests are as is described in the theoretical frame often larger and can extent into other municipalities. They are also because of their size and location outside the city of importance to the wider nature structure.

Street green

A very old typology that seems to have taken on a different approach over the past couple of years is street green. Although not mentioned as part of the top three by many municipalities all of them have some sort of street green policy and idea on what needs to happen to this space. During a participation event in Maastricht many questions were asked about the possibilities and visions in relation to the street green. Representatives of the IVN and other nature organisations highlighted that these green spaces although not of much direct use for people can play a large role in the biodiversity challenge.

Before these spaces were just grass or one type of plants, low maintenance and nice looking, chic and clean. Today a shift towards a more floral approach seems to be the standard. Again increased biodiversity of both flora and fauna is an important aspect of this, combined with the lower maintenance levels as mowing is only needed one or two times a year (Interview Maastricht, 2019; Interview Uithoorn, 2019). This is however not possible everywhere, as when visibility in traffic becomes an issue, or when green takes over spaces that are specifically not-green, interventions have to be taken. These can differ from more mowing and pruning to changing the type of plants or just taking the green out altogether.



Figure 20. Flowering green on roadsides, (Omroepwest, 2019)

Brownfield and business districts

One of the questions asked during the interviews with regard to these typologies is if there is something the municipalities are not yet paying attention to, are a typology which is lacking in the city. The unilateral answer is brownfields and business districts. It seems as though the value and possibilities that these spaces bring are not all that well known and the idea of doing something with those spaces is still being formed. Another aspects of green space that is named as an answer is the lack of diversity in flora.

It is admitted that these spaces might provide key positions as they are situated on the boards of the city, they can become important entrees for people and flora and fauna (Interview Maastricht, 2019; Interview Uithoorn, 2019; interview Alphen aan den Rijn, 2019). In Utrecht the interviewee notices that there are different types of brownfields and business districts and that each needs a different approach rather than there being a unilateral solution to green space in these spaces. As often these spaces are partly or mostly private property the municipality has to find a way to work

together with these companies. At the moment cooperation with businesses lies with economic affairs and green is only a small part of that (interview Utrecht, 2019).

A moment and place when greening is undertaken in these brownfield and business areas is when the transformation to housing district is being made, or when houses are added on a smaller scale. According to Utrecht this is because green is an important pull-factor for housing, while businesses and industries are not necessarily gaining or losing employees because they are or are not located in a green space. The other way round is possible, employers could give their employees a little extra by providing a green working space, but they also have to deal with noise and smell pollution laws.

Municipalities acknowledge that a lot can be gained from greening in business and brownfield areas, however greening is often seen as a more important development to housing districts. It is clearly done with more of a focus on increasing and bettering living conditions, and to a lesser extent part of the working climate of a city. This slightly contradicts the literature. Although the importance of green space to working conditions is not contradicted, this whole part of the benefits of green space to the human is left to the side. It is sometimes mentioned as part of creating business settling conditions but never in depth. Green space seems to be for people in their free time, when at work we work, when at home or in public we can relax, enjoy and experience green space.

4.3.3. Accessibility of green space

Accessibility, being the third area of consideration, has mainly two sides. First the accessibility of the green space to all people. The general understanding, coming from the interviews, is that yes everyone should have access to green space. When planning for green space or nature planners thus have to keep in mind that in the city as a whole there is some green space accessible for everyone. Measures in line with this idea can be found in for example Uithoorn where one of the citizens has taken the initiative to map green spaces with different levels of accessibility to people who have difficulty walking. Now the municipality is working on increasing the level of accessibility where possible according to his and other findings.

The second side to the accessibility challenge is; should all nature be accessible to all people? Again a unilateral answer, no it should not. As presented in the theory the nature value of a space can increase and decrease by the amount of lighting and the type of paths used to access the space. Some places, or during some seasons, areas are even closed off to all people as part of protected nature and breeding laws.

An example which illustrated the above and clearly sketches the duality of accessibility is found in among other places Alphen aan den Rijn. Here close cooperation with farmers is undertaken to open up farmland to hikers. The farmpaths (Boerenpaden) are not accessible to people in wheelchairs and can be (partially) closed off during breeding seasons creating a higher nature value. At the same time elsewhere in Utrecht cycle paths are being constructed to create an infrastructure through a park, increasing accessibility, while losing some of that nature value. This loss is then being compensated by for instance turning of lights early in the night as part of creating batt-friendly park. Again safety is a concern in this, "is it purely mental safety or also physical, and where do we draw that line of public safety and nature value". What the answer to this is seem to be different per situation, area and municipality.

4.3.4. Conservation and management of green space

When it comes to conservation and management, findings in this study closely align with what was said in the theoretical chapter. There are separate policies for tree maintenance. These policies include a list of trees that are not allowed to be cut down, rules entailing the replanting of trees when they have to be cut down, as well as visions on diversity and tree structures. Compensation in case of loss of green space, seen as a bad thing, because of other developments is standard part of greening policy.

In larger cities like Groningen and Utrecht this compensation is not always possible on a quantity level, as a result quality of green space is to be increased and innovations are being made that will allow green space to remain even in high and densely build areas. For example Utrecht recently announced the building of three housing towers that are to be developed according to the vertical forest principle.

Policy on pruning, mowing and removing green space or types of plants are often only guided by the municipality. In Almere policy states that management and maintenance is done with the purpose of preventing nature from taking over the city. The actual implications of those guidelines and the maintenance work is cried out by secondary organisations. In Utrecht, where *Stedelijk beheer*, [city management] is in charge of keeping green space and infrastructure intact and in order, the municipality e.g. de governmental officials, like the members of municipal parliament, work closely with the maintenance organisation in order to align policy, vision and action.

Again, like with accessibility, there seems to be a twofold in which planners and municipalities have to make decisions on their level of management and conservation. On the one hand ecological management and on the other more clean and proper management. Mostly the decision on the level of management and maintenance is related to the budget. As this varies over the years maintenance changes alongside it, leaving periods of high and low maintenance. As well as periods of more ecological and more proper management of public green space. The current trend deviates more toward ecological management of green space, with keeping in mind breeding seasons and flowering periods.

Resently more publick-private management has come to place. Together with residents small green spaces are being designed and managed. In Apeldoorn for instance people can set up a cooperating five year contract with the municipality. In exchange for space, some plants and help with the management once or twice a year, residents are given the task of managing, designing and maintaining these green spaces. This does not always work out the way the municipality hoped. Sometimes when the initiative takes moves away or dies the space deteriorates (Interview Uithoorn, 2019. Also not all people know what is the best type of plants for that area, municipalities have data on that so it is important to keep the lines of communication and cooperation open.

The tiny forests being a perfect example of this as well. These forests are for and by the community, all the municipality does is provide the space. Then schools and neighbourhood organisations will take over and care for the green space. As the representative of Apeldoorn notices these spaces may initially be temporarily, like the five year contract, but often gain a societal value, a place with meaning and purpose to the social structures of the neighbourhood. The tiny forests provide this social meaning not only on the level of recreation and meeting places, but also on an educational level, increasing knowledge and awareness of green spaces with young children.

Like with accessibility management and conservation also differs per location and situation in the city and safety, mostly in relation to visibility in traffic, is another aspect which largely influences management. When visibility needs to be high, for instance on large road crossings, maintenance level will increase and the type of plants used will be different from a playground. Maastricht explained; some places lend themselves more for a certain typology and size of green space and with that comes a certain type of management, and others are more suitable for a different approach, as long as the whole of the city becomes more greener.

These four areas of consideration are used to specify greening. Some municipalities pay more attention to one of them and others have a bit of vision and policy on all of them. The four areas are however connected and dependent on each other. A certain typology of green space, for instance a park, will require different levels of management and a higher accessibility rate, than for instance street green, with lower management and accessibility levels. The same way allocation is connected

to management, as the allocation of green space becomes more fluid with the city higher levels of maintenance are required because of the impact of green space on everyday life and safety of infrastructures.

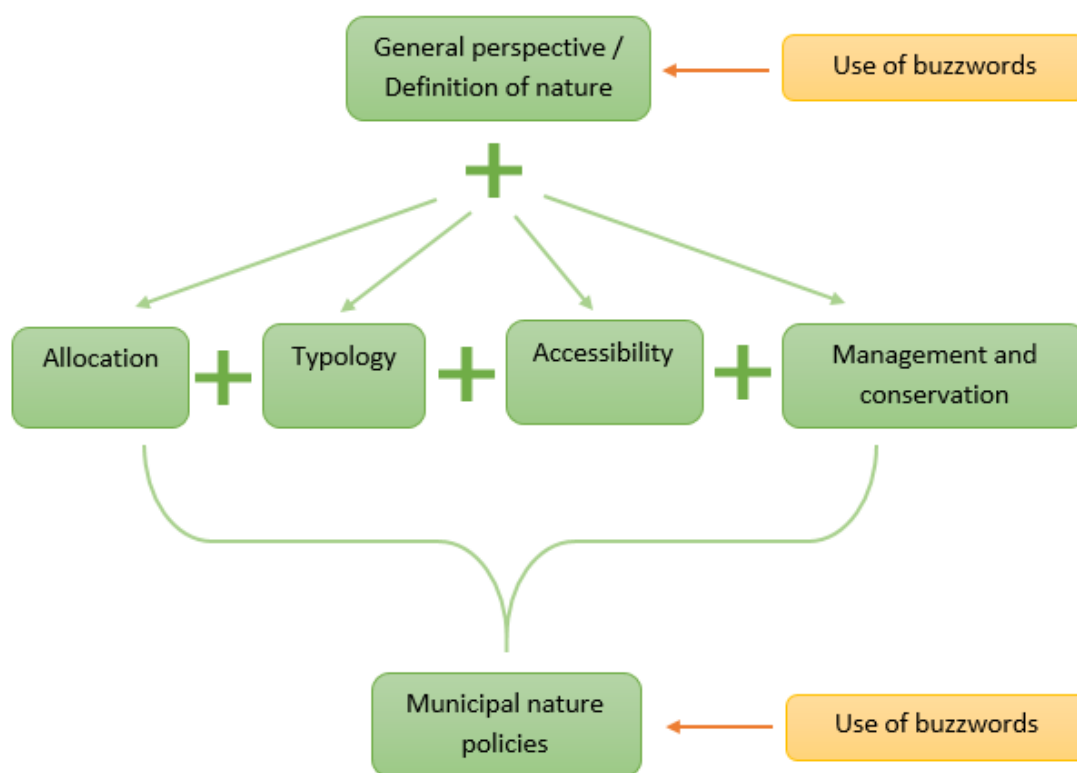
4.4. Greening as a buzzword

Looking back at the nature and quality of buzzwords, the use of greening is definitely a buzzword. Sometimes greening is shortened to green and transformed from an action to a thing, however remaining the same intention.

Buzzwords...	In the case of greening
<i>... are a universal desire</i>	Most municipalities desire to become greener, it is part of their main argument and vision. Even as is the case in Goes, when municipal desire is not necessarily high, national and provincial desires force greening into municipal planning.
<i>... Sound intellectual</i>	Greening does not really have a scientific sound to it, some of what is seen as directly related to the greening process is, one can think of ecological networks and biodiversity.
<i>... Are In-Words</i>	Greening or the importance of green space is mentioned in all main policy documents and of course policy concerning green space and nature. It is often mentioned as a plus-point to other developments using it throughout all kinds of policy areas like housing and climate adaptation.
<i>... are something new</i>	Greening is not necessarily new, yet the intensity and awareness of the concept are. Also the concept has taken on new meaning in recent years in relation to climate and compact city challenges.
<i>... Are a compulsion</i>	It is hard to say if greening is compulsory in planning policy. However, like it is no longer acceptable to leave sustainability or water management out of planning policy, greening, being largely connected to the two is becoming more and more a mandatory aspect of spatial planning policy.
<i>... are legitimizing</i>	Bluntly stated, everything done in the name of greening is good. Side effects like increasing housing prices are framed in a positive way, unlike Haaland who mentions the social segregation initiated by those prices and proximity. Also greening is seen as a pull-factor and health benefit for those living in close proximity. Greening without an explanation already seems to legitimize itself as well as other developments. New housing is fine, because we will compensate by creating higher quality green space in the neighbourhood, is the general idea.
<i>... Do not just cloud meaning</i>	The notion of what greening is, is slightly vague yet it combines a whole lot of perceptions and ideas, which at times contradict each other. Greening is increasing accessibility while at the same time creating a higher nature value. It is more flora and fauna, while giving it significant purpose for human use at the same time. When exactly greening is enough, or the goal is reached is unclear.
<i>... Simplify</i>	Greening simplifies a whole lot of measures taken in its name. It is used to give the reader a general idea of what the vision for the city is without having to go into detail. The details and implications then will be specified for each area or plan. If one were to list all the different possibilities and shapes greening can take on it would take more than just one policy document to write them down.

As proposed in the theoretical framing of this study these buzzwords mostly circulate the more general policies like the structuur- and omgevingsvisies. When starting off the process of writing the large policy documents already buzzwords or organisational jargon circulates the air. Everyone in the organisation has more or less the same idea on what is greening. Yet when this is translated to the public through policy documents this initial notion that the municipality has may differ from the interpretation the readers have.

Greening is made more concrete through the four areas of consideration which often have their own set of policies. Take for example the tree management policies or policies on neighbourhood development and un-hardening of public space. Also area- or location specific policies give a more structured and defined meaning as to what greening means for that specific place. Yet over the whole of the municipality these implementations and meanings of greening differ and one is left with an abstract term.



Also good to notice is the relation between greening and sustainability. They are as mentioned before not able to exist without each other. Sustainability has been identified as a buzzword before, in such I will not elaborate on that. It is curious though that greening is seen as a concrete and important part of sustainable development, it is used as an example of measures taken in the name of sustainability. In a sense you are making the buzzword more specific by adding another buzzword, which creates more confusion about what either of them really means.

5. Discussion and conclusion

Greening has become almost a standardized action in planning policy. The danger with those commonly and politically used words however is that their substance and meaning gets lost in translation. This study has analysed the meanings and intentions of greening policy. Greening as part of spatial planning policy is often a secondary theme. It loses priority when other themes like housing and economy are making a claim for the same physical space. Although, in some municipalities movements, both government official and interest groups, have come to exist that advocate starting planning from a green perspective, most of the municipal planners still put themselves more towards the social equity and economic development side of the planning triangle.

Early on in this study it became clear that there is no such thing as one socio-natural relation. Municipalities differed in their opinion on what nature and greening mean, mostly on the level of human intervention. Through combining key concepts from the different definitions a general notion (or definition if you can call it that) for greening is proposed.

Greening: Increasing quality and/or quantity of natural elements in public space with the goal of giving nature a secondary, urban function making that space desirable and experieanceble for people, while making it more biodiverse at the same time.

In addition to the notion of what is greening, aspects such as the function of the space and the origin story of the landscape and the city play a large role in shaping green space. Old country estates and river meanders are seen as important aspects of a greening strategy and form the inspiration for the aesthetic. These desires for the past are combined with a fascination for the future through innovations and alternative ways of bringing green space in contact with the urban environment.

Most often greening is carried out in relation to climate adaptation and as one of the sustainability measure. Green space is expected to regulate high and low water flows and cool down the city. On the contrary to what was proposed in the literature greening is not often taken on with the goal of increasing working conditions. Health and living environment are mentioned as beneficiaries of green space development. Although these are not disregarded they seem to be secondary to greenings main functions, climate adaptation and even more important, recreation. Greening interventions have the goal of creating a public space which is functional for human leisure.

The previously described functions are mentioned throughout the planning policy documents like the *structuurvisie*. In the documents the term greening still has a high altitude of buzz-wordiness. Greening almost completely ticks of all of the characteristics of being a buzzword. Greening is 'in' it is part of the political discourse and functions as a legitimizing agent for other developments like housing and sustainability while also legitimizing itself through the positive connotation that is given to the word. Better green, more green, high quality green space, beautiful living conditions, health benefits, the list goes on with more benefits and positive aspects of greening.

Through the use of the four areas of consideration municipalities try to give more content and context to this idea of greening. This confirms the hypophysis that buzzwords are mostly used in the more general policies. Allocation, Typology, Accessibility and Management and Conservation make up the four areas in which most municipalities will have to make choices in relation to greening policy. Some of these are more ideological, like where does nature of green space belong in relation to the city. Most municipalities seem to be making a linear shift from a green belt perspective to a corridor perspective, and some have already started to move towards a more fluid coexistence of nature and the city.

Others like management and conservation, as well as typology are more dependent on other things like budget and safety. Not all spaces lend themselves for all typologies or all kinds of management. This location specific approach is one that gives meaning and direction to greening

policy. It is at the thematical or locational level that greening gains substance, this however only moves greening out of a buzzword status on this level. As part of the larger planning policy ideal and the larger scoop of documents greening can be anything.

As planners we often promote this local and situation specific approach to planning. This allows us to make plans that really fit the situation. Because greening is such a collection of measures, innovation, and visions it is hard and often not done to create sort of a greening-master-plan. However it is as planners and policy makers essential to be aware of what words you use and what they might mean in a wider context to the public and to other parties involved with planning. Being aware that there is a multitude of meanings and definitions that vary across the green space and nature spectrum is already a start. At the same time just being aware is not enough, it is like saying that you now someone is stealing your bike, yet you will not do anything about it. You can cry about it and never cycle again or you can take back the meaning of the word and give it grounded legitimacy.

Which greening approach municipalities in the Netherlands should take and what choices they are to make I will leave open for others to study. Best practices and failed greening projects might make for an interesting study. Where this study solely focusses on policy and intentions, rather than the consequences of those policies, it could be good to relate the findings from this study as well as the policy documents themselves to practical cases of where such policy is implemented into public space. This might help to further understand the meaning of greening. Also interesting might be a more quantitative approach visualizing quality and quantity of green space, the big question with this is however do we measure green space quality. Since most municipalities do not seem to know when greening has reached its goal it will be hard to measure this as there is no end to what is good or bad. Like this study has shown the multitude of definitions only complicates such a measuring system.

For now greening retains a buzzword status in planning policy documents. As said this is not bad and allows for area specific plans rather than being stuck with a definition on a higher level leaving little room for customization of plans. The danger with being a buzzword is and will remain that greening as with other buzzwords is used to illustrate and legitimize development and in such has become political rather than an objective planning action. Things are being done in the name of greening, yet do we all agree on what that means?

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Apendix

1. Topic list

Topiclist, Natuurontwikkeling in beleid.

Algemene intro

Het doel van dit onderzoek is om er achter te komen wat de achterliggende betekenis en de definitie van natuurontwikkeling en groen in beleidsstukken is. Vaak wordt er in beleid alleen gesproken over vergoenen, of natuur ontwikkelen, ruimte voor groen enz. Deze begrippen zeggen echter nog niet heel veel over wat dat groen dan inhoudt. Vandaar dat ik in dit onderzoek op zoek ga naar wat het nou betekent om natuurontwikkeling te doen.

1. Vragen of het mag worden opgenomen
2. Vragen of naam een functie mogen worden genoemd in het eindrapport
3. Aanbieden om het eindrapport te delen

Thema	Vragen
Introductie	<p>Kunt u uzelf introduceren en uitleggen hoe/op welke manier u betrokken bent bij het groen/natuurbeleid in uw gemeente?</p> <p>Kunt u voorbeelden geven van (beleids)stukken/groen-programma's waar u aan heeft meegeschreven/meegedaan.</p>
Definitie bepaling	<p>Wat omschrijft uw gemeente als groen/natuur?</p> <p>4. verschilt dat van uw eigen mening, zo ja waarin</p> <p>Kunt u een aantal kenmerken noemen die volgens u het belangrijkste zijn van groen/natuur?</p> <p>5. Ingaan op sommige van deze kenmerken en daar toelichting op vragen.</p> <p>+ Maakt de mens natuur, of kan dat alleen vanuit zichzelf komen?</p> <p>Hoe ziet u de verstandhouding tussen stad en natuur voor zich?</p> <p>Waar houdt natuur op, wanneer spreken we niet langer van groen/natuur</p> <p>6. Denk aan onkruid en gras tussen tegels enz.</p> <p>Wie bepaalt er hoe de groenontwikkeling er uit komt te zien?</p> <p>7. Participatie en design</p>
Verschillende typen (kort houden)	<p>Over de volgende typen groen zullen een aantal vragen worden gesteld. (De respondent zal een top 3 aanwijzen, en daar zullen vragen over worden gesteld)</p> <p>8. (Stads)parken</p> <p>9. Natuurgebieden/bossen</p> <p>10. Straatgroen & bermen (Infrastructuur)</p> <p>11. Water</p> <p>12. Industriegebieden/bedrijventerreinen</p> <p>13. Tuinen/privaatgroen</p> <p>14. Bomen</p> <p>15. Stadslandbouw</p> <p>16. Ecologie en stadsdieren</p>

	<p>Zijn er typen die belangrijk zijn voor de gemeente die er niet tussen staan? Wat is het belang/toegevoegde waarde van deze typen groen voor de gemeente?</p> <p>Waar (welk type) zet de gemeente het meest op in wat betreft ontwikkeling en waarom?</p>
Locatie & Toegankelijkheid	<p>Waar bevind natuur zich?</p> <p>Waar vindt de gemeente dat natuur thuis hoort, binnen of buiten de stad en in welke mate?</p> <p>Voor wie/wat moet natuur/groen toegankelijk zijn en zijn hier verschillen tussen de verschillende typen natuur/groen?</p> <p>17. Zitten hier verschillen in gedurende het jaar? Denk aan broedseizoen etc.</p> <p>18. Zitten hier verschillen in met betrekking tot vervoermiddelen etc.?</p>
Beheer	<p>Wie gaat er over het beheer van natuur in de gemeente?</p> <p>19. Waarschijnlijk de gemeente zelf, maar er is onderscheid tussen publiek/openbaar groen en privaat groen</p> <p>20. Denk ook aan <i>tiny forest</i> (beheer van scholen etc.)</p> <p>Zijn er samenwerkingsverbanden met bijvoorbeeld bedrijven voor het onderhoud/beheer van openbaar groen?</p> <p>Wanneer vindt het beheer plaats en hoe wordt er bepaald wanneer er moet worden gemaaid en gesnoeid etc.?</p> <p>Hoe gaat de gemeente om met dat de natuur ook haar eigen ding doet?</p> <p>21. Denk hierbij aan het opkomen van planten die niet zijn ingezaaid, of braakliggende terreinen waar dieren en planten een (nieuw) thuis maken.</p> <p>22. Is er veel discussie binnen de gemeente over de mate waarin groen moet worden beheerd?</p>
Gemeente specifiek	<p>Hier worden een aantal zinnen/termen (stuk of ¾) uit een beleidsstuk gehaald en wordt er om verduidelijking gevraagd.</p> <p>23. Hoe ziet de gemeente dat voor zich en wat komt er bij kijken</p> <p>24. Wie is er verantwoordelijk voor het ontwerp?</p>
Afsluiting	<p>Heeft u zelf nog dingen die we vergeten zijn te noemen die u denkt dat ook belangrijk zijn?</p> <p>Heeft u nog vragen aan mij?</p> <p>Bedanken voor de tijd en deelnamen aan het onderzoek.</p>

2. Interview transcripts

Excluded in digital version due to privacy reasons.