

# Green in neighbourhoods: planning a seed for the future

The role of spatial planning in nature provision for children in neighbourhood project development



MSc Thesis Spatial Planning

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*“Children are a kind of indicator species.  
If we can build a successful city for children,  
we will have a successful city for all people.”*

- Enrique Peñalosa, former mayor of Bogotá

# Colofon

## Title

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## Preface

In my childhood memories, the most fun play spaces were those that were not meant for playing. Those places where we should not go – climbing over fences, playing on construction sites – and, moreover; green spaces, like the forest or the bushes next to the schoolyard. Rarely did play happen in traditional playground settings, and if it did it was not particularly memorable – or at least not to my scattered reminiscence. The traditional playgrounds, to me, mostly seemed dull and this was especially underlined when I took up skateboarding; designated skate parks were often boring and seemed bureaucratically planned without much knowledge of what was actually needed. I tend to believe that this dissatisfaction with provision of children's – then: *my* – facilities sparked an interest and led to my decision to commence my studies in landscape architecture and spatial planning.

During this study, I discovered a range of topics that also appealed to me, but still kept this interest in children's space in the back of my mind. When it was time to write my thesis it resurfaced and I made it my incentive to conduct my research on this topic. After an extensive preliminary investigation on which topic specifically would suit my objective, and would do so from a spatial planning perspective – the master track I had chosen – the subject of green provision on neighbourhood level emerged.

Before this research I knew little about this topic, but over time I have become much more knowledgeable. Because of my enthusiasm, it was difficult for me to stay on track and not digress towards related aspects outside of the scope of this thesis. Still, I managed to finalize this study and I am very happy with the result which lies in front of you today.

Arriving at this final report would not have been possible without the help of the interviewees who were willing to cooperate and share their knowledge in this study, for which I would like to thank them. Secondly, I thank my supervisor, Arend Jonkman, for his guidance and feedback whenever it was needed. His insights – delivered with a calm, supportive demeanour – and personal interest in the topic helped me a lot in progressing with this research; yet, still letting me do it in my own way. Next, I would like to thank my parents and sisters for their interest and concern for this thesis and me personally; going home every now and then gave me the required rest and motivation to freshly get back into it. Also, I want to thank the Tarrèls for providing support, tips and – moreover – needed breaks, *familyballs* and dinners. Last but not least, thank you Lydia for existing and supporting me in any way you did.

I hope you enjoy reading this document as much as I enjoyed working on it.

Roel

# Abstract

This thesis is about child-friendly green space in urban new residential neighbourhoods and the way in which this is considered in the spatial planning process.

The motivation for this research is the fact that children's outside play is decreasing and the associated decline of contact with nature amongst children; especially prevalent in urban areas. Research shows that both these phenomena have a negative impact on the healthy development of children and therefore also on future generations. The neighbourhood environment can, from a young child's perspective, be viewed as its 'world' and should therefore facilitate the child's (spatial) needs for a healthy upbringing.

In the spatial planning process of new neighbourhoods, several actors are involved with various interests. These actors have to come to agreement on different aspects from which a collective plan should eventually emerge. One of these subjects is the (design of the) public space, and consequently; the green space. In addition to the positive effects green provides for people and the general living climate in the neighbourhood, contact with green is also especially beneficial for the healthy development of a child.

For this reason, this study focuses on the way in which child-friendly green space is provided in neighbourhood development and plays an interest in the spatial planning process. This is studied in two cases: the neighbourhoods 'ENKA' in Ede and 'Waterfront' in Harderwijk.

Through qualitative research, employing both document analysis and interviews, this study found that children's interests are still mainly regarded in the traditional way: planning of formal playgrounds. Moreover, there is lack of relevant, comprehensive and integral municipal policy on the subject of children's interests and little use of policy is made in the project development. Also, green implementation is often motivated for different reasons than regarding children's interests. Furthermore, the physical character of a plan is of great influence on the type of facilities planned; green needs to be deemed fitting therewith. Still, also within a 'green' neighbourhood, differences in building styles can create disparities in environmental justice. Additionally, the ambition to offer a diverse range of living environments leads to distinctions in neighbourhood characteristics, such as explicitly 'child-friendly' or 'green' neighbourhoods, which again seems to imply environmental injustice.

Concluding, therefore, it can be stated that spatial planning of neighbourhood project development is not significantly concerned with ecosystem services, children's interests or the combination thereof – neither from the municipal, nor from the project developer's perspective.

**Keywords:** spatial planning, children's interests, ecosystem services, project development, neighbourhood, green space.



# 1. Introduction

## 1.1 Background

Children are playing outside less. This is a fact that has come forward from a number of recent studies. A Dutch study from 2018 showed that generational differences are very apparent: whereas parents and grandparents still spent 69, respectively 63 percent of their playtime outside; the current generation of children between six and twelve years old only spends 10 percent of their playtime outside (Jantje Beton, 2018).

Related to this decline in outside play is the fact that children's contact with nature is decreasing (Louv, 2008; van Koppen, 2013). This, while research is increasingly demonstrating and confirming the positive link between green space and general health (of children); coupled with the fact that physical, mental and behavioural health problems among children are increasing (Christian et al., 2015; McCormick, 2017; Nutsford, Pearson, & Kingham, 2013; Triguero-Mas et al., 2015; M. van den Bosch & Sang, 2017).

Many studies have been conducted on the phenomenon playing in nature; also comparing it to play in traditional playgrounds in terms of the physical, mental, cognitive and social benefits that often accompany natural play environments more than their traditional counterparts. For instance, children's access to green space was found to be associated with fewer behavioural problems, improved overall health (mentally and physically) and cognitive development, improved memory, self-discipline and social interaction skills (Flouri, Midouhas, & Joshi, 2014; Markevych et al., 2014; McCormick, 2017). Also, children playing in nature encounter more problem-solving situations, which improves self-confidence, creativity and feelings of self-worth (van den Berg, Koenis, & Berg, 2007). Furthermore, the form of play that is performed in natural playgrounds is different to that of a traditional playground; construction-play and imaginative- or fantasy-play, which are seen more in natural settings, seem to improve cognitive development of children more and lead to development of more positive relationships with each other than does movement-play, which takes place more in traditional play- or school ground settings (Dowdell, Gray, & Malone, 2011; Schouten, 2005). Additionally, natural environments seem to promote physical activity in children and one study estimated that in a greener environment<sup>1</sup>, children play 15 percent more outside and are therefore at a lower risk of obesity (Dyment & Bell, 2007; KPMG, 2012). Playing in nature is also associated with development of a child's connection to nature, resulting

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<sup>1</sup> An environment that applies to the green-norm of 75m<sup>2</sup> green per household within 500 meters from the household

in improved feelings of self-awareness and autonomy as well as impacting their sense of nature-connection and (future) care for the environment (Frantz & Mayer, 2014; Gezondheidsraad & RMNO, 2004; Ives et al., 2018). Lastly, concluding a study on the effect of nature and outdoor activity on the health and well-being of children, the authors advise outdoor play in natural environments as a method for paediatric health care providers to counteract obesity and mental health issues in children (McCurdy, Winterbottom, Mehta, & Roberts, 2010).

Judging by this selection of findings – extracted from a much larger body of research with congruent results – it can be argued that children’s play in nature has got profuse benefits for the child and that provision of spaces for them to engage in this kind of play should be a considered a priority in spatial planning of children’s environments.

## 1.2 Scope

The focus of this study, therefore, is on the role that spatial planning plays in the provision of natural environments for children in Dutch neighbourhood development projects on infill locations.

Many factors have been identified as contributory to the decline of outside play; parental concern for safety and the digitalization of society are often mentioned as being major causes for this problem (Aziz & Said, 2012; Bornat & Shaw, 2019; Mediawijzer, 2018; F. van den Bosch et al., 2011; van Koppen, 2013; Wiesman, 2014). What has been studied fewer, however, is the role of the physical space reserved for children's play; whether the current 'playscape' is (still) relevant and suitable for today's youth.

In spatial planning – and explicitly in housing development – it can be stated that children's needs and interests are frequently overlooked or misapprehended – both in policy and in practise – even though (changes in) the physical properties of the urban fabric can greatly affect children's everyday lives (Bornat & Shaw, 2019; Driskell, 2017; Malone, 2015; Tisdall, 2008). This can be attributed to a lack of relevant or applicable research findings on this subject and failing to incorporate children or recognize their interests in spatial developments; professionals often do not know how (Bornat & Shaw, 2019; Cele & Van Der Burgt, 2015; Clark, 2015).

This, even though relevant and valuable research has been conducted on the subject of children's interests. For instance, in a Dutch large-scale, quantitatively oriented research on the quality of the play-environment in the participants' neighbourhoods, it was found that 42 percent of children considered the specifically as playground designated areas with playground features in their neighbourhood to be 'boring' (Timmermans, Meinema, & Snel, 2013). A similar figure – 39 percent – was found in a comparable, more recent study (Jantje Beton, 2018). Furthermore, research on the play preferences of children shows that the presence of greenery in the vicinity of a playground can have a positive effect on the visiting patterns of that playground – greenery adjacent to the playground is therein also 'used' by children as play space (Jansson, 2010). Another study amongst elementary school children, conducted in the Netherlands, found that most children prefer a naturally designed playground; even those that have never been to one before and base their preference on the basis of pictures (F. van den Bosch et al., 2011). Furthermore, a nationwide study found that Dutch children prefer 'nature or forest' over any other play environment, and that building huts and climbing are preferred over most other games such as swinging and skating (Timmermans et al., 2013).

Nevertheless, children do not deem their neighbourhood environment suitable for engaging in these preferred games (Timmermans et al., 2013). There is a decline in – for children – directly accessible green space (van Koppen, 2013). What is more, the oftentimes scarcely available natural areas in many cities are generally found to be (partly) inaccessible for children or do not provide play opportunity (F. van den Bosch et al., 2011). There seems to be a discrepancy in what children want – and *need* according

to the research – and what is provided for them, play-wise (Timmermans et al., 2013; F. van den Bosch et al., 2011).

As mentioned, the neighbourhood-level can be deemed the correct scale for studying this subject. Their neighbourhood is the place wherein children spend the largest portion of their early years, largely due to the fact that their action radius is small (Bouwmeester, 2006). One could argue that the neighbourhood can be viewed from a young child’s perspective as its ‘world’. The neighbourhood environment should therefore satisfy a child’s basic needs and support it in its healthy development towards adulthood; appropriate public space for children should be readily available on this scale (Bornat & Shaw, 2019). Psychologist Urie Bronfenbrenner developed the ecological systems theory, in which he identified five environmental systems with which an individual interacts: the *micro-*, *meso-*, *exo-*, *macro-*, and *chronosystem*. Bronfenbrenner’s model recognizes that individuals should be studied within their own context of development (Bronfenbrenner, 1979). The microsystem is the environment that is most immediately and directly impactful on a child’s development and also the system wherein *neighbourhood play area* is specifically placed (Bronfenbrenner, 1979).

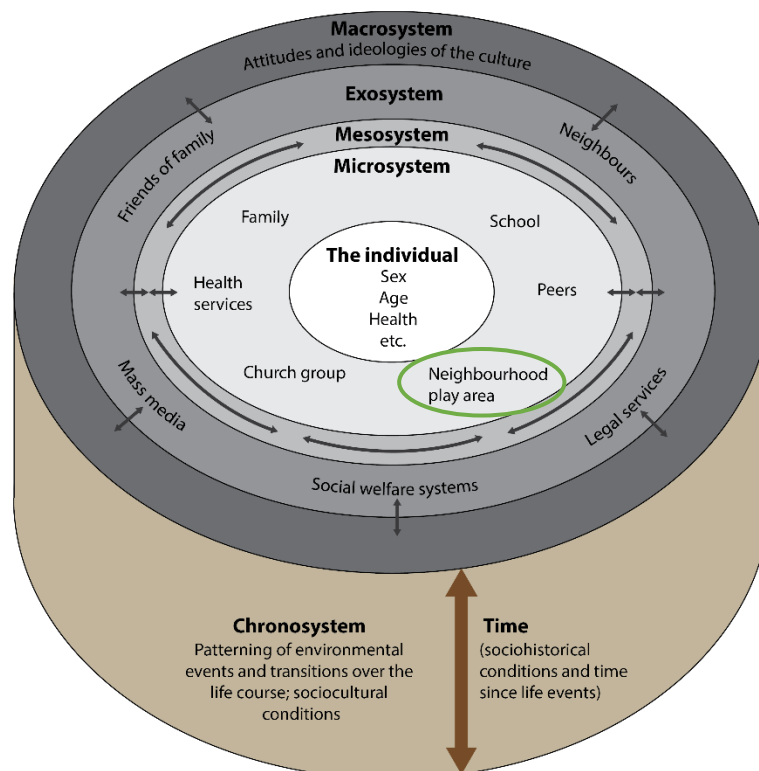


Figure 1: Bronfenbrenner’s ecological systems theory model. The neighbourhood play area (circled in green) is part of the microsystem. Adapted from “Bronfenbrenner’s Ecological Systems Theory”, in Slideshare, 2010, Retrieved May 1, 2020, from: <https://image.slidesharecdn.com/santroctls5pptch012-110105133127-phpapp01/95/dev-psychch1keynote-35-728.jpg?cb=1294241034f>

The most important actors influencing the spatial planning process of housing projects are the municipality and project developers. In many large building projects, such as neighbourhood development the project developer operates on behalf of the municipality by planning and constructing the project that the municipality initiated, both having set up and agreed to terms and conditions for the development. Since project developers and municipalities both have a large say in the (final) plans, the dynamics between these actors and the outcome of these dynamics – in light of the subject of nature provision for children – are deemed interesting to investigate further in this study.

The target-group for whom this subject is of most importance is, naturally, its users: children. There has been plenty of research published on the way children experience cities or their living environments in general, as well as how children perceive nature and play-environments and what their ideal view on these subjects is (Bornat & Shaw, 2019; Francis & Lorenzo, 2002; Jantje Beton, 2018; Malone, 2013; O'Brien, 2003). For this reason, as well as for pragmatic reasons, children are left out of this study on the field research part. The interests of children are therefore taken into consideration from findings in the desk research by using existing data from studies on this subject.

It needs to be acknowledged that 'nature provision' is a broad term and that not any type of nature provisioning is necessarily beneficial to or even considered 'playable' for a child. Still, this term is kept rather general in order to be able to grasp the whole of decision-making on this subject; if implemented, green provision is likely motivated by other reasons than for children's interests. If it is found that children's interests are actually specifically considered herein, it can then be further investigated what this would imply in practise.

## Why play?

It is important to address why there is such attention given to play in this study; when play is not necessarily directly related to natural environments. For children, however, play is their way of interacting with the world around them (Ginsburg, 2007). It is through play that children learn and make sense of the environment they grow up in. Play does not have to take on the form of structured play such as swinging or playing sports; it is more often performed in an unstructured manner (Bouwmeester, 2006; Ginsburg, 2007). This unstructured play takes place anywhere; with natural environments being amongst the most preferred places by children. Provision thereof, however, is often scarce (Timmermans et al., 2013).

In the more traditional way, playgrounds are often supplied with children's playing equipment like swings and slides or other climbing features. Playgrounds like these still typify the general design of a playing environment in the current day and age. By creating these specifically designated spaces for children, they are kept inside a certain 'fence'; 'prohibiting' them from playing elsewhere. In spatial planning, this view on children's play is often true as well; in spatial planning for play the focus is on formal play environments (Cele, 2006; van den Bogaard et al., 2009). Whilst it is important that these formally designated play spaces exist, research shows that informal play environments are just as or possibly even more important for facilitating children's play; children were, for instance, found to play merely a quarter of their time in formal play spaces and the remaining time in informal spaces (Bouwmeester, 2006; Cele, 2006; Engbers, de Vries, & Pierik, 2010; Schuit & van Oers, 2016). Moreover, since the action radius of young children is so small, the immediate public space adjacent to their homes is the most important (informal) play environment in the child's early years (Bouwmeester, 2006). The informal play environment is any (public) space that is not specifically designated as a 'playground', for instance: streets, pavements, parks or other green space in general – the latter being the informal play space of interest in this study.

Since unstructured play is so important to – and for – children, it arguably should be taken into account when planning environments for children. Moreover, especially regarding unstructured play, it can be argued that a public space that is suitable for children is a public space that is suitable for everyone, or even, as Bornat and Shaw put it: *“If play is a good representation of children and young people's well-being it can therefore become a useful measurement of social value, itself an expression of social well-being”* (Bornat & Shaw, 2019, p. 17). For this reason, it is very relevant to focus on (unstructured) play when we talk about environments intended for children and incorporating children's interests.

### 1.3 Relevance and problem statement

From the studied articles, it can be concluded that, in general, **spatial planning of neighbourhoods is often unsuccessful in providing accessible natural environments for children**; even though research shows that young children – and people in general – can experience profuse benefits from green areas in the proximity of their living environments.

This study, therefore focuses on two problems that are interconnected with each other. These problems, at large, are that children are playing outside less and that they are growing up with increasingly less contact with nature (Jantje Beton, 2018; Louv, 2008; van Koppen, 2013). Aside from the earlier discussed health benefits of (unstructured) outside play in nature for children themselves, studies also show that connection with nature in the early stages of a child's life impacts the sense of nature-connection and care for the environment and that this reconnection to nature of people in general can play a valuable role in our global aim for more sustainability (Frantz & Mayer, 2014; Ives et al., 2018). The fact that both outside play and children's contact with nature have quite drastically declined over the past decades, can therefore be seen as a problematic development for children and the future of our planet (Louv, 2008).

Spatial planning for the growing urbanization and the need for more housing in the future (in the Netherlands) are directly related to this problem and should therefore be addressed. With cities' need for growth and living areas becoming more densely populated, the result is an increased pressure on public space and green areas (Bornat & Shaw, 2019; Giezen, Balikci, & Arundel, 2018; Haaland & van den Bosch, 2015). The reality is (therefore) that – in urban environments – natural areas are often either too far away for children to visit on their own or cannot be 'used' for play (F. van den Bosch et al., 2011; van Koppen, 2013). For adults, one could argue that nature is within reach for many residents of even the busiest urban environments. This, however, is largely because the action radius of adults is far bigger and opportunities to independently move throughout and visit places – like natural areas – are much greater. Yet, for children this is not the case. The result is that contact with nature is becoming more scarce; especially for young children, whose action radius is determined to be around one hundred meters outside the house (Bouwmeester, 2006).

The first five years are a crucial and sensitive developmental stage of a child's life. It is the time when the basis for the child's (future) health, emotional well-being and life success is developed (Hertzman & Williams, 2009). A child's brain grows rapidly during this time, which makes the child especially vulnerable to environmental stimuli; beneficially or adversely influencing its development (Minh, Muhajarine, Janus, Brownell, & Guhn, 2017). For this reason, provision of nature close-by can be seen as vital for a child's healthy development. This is something that spatial planning can (and arguably should) take into account when developing a (new) neighbourhood.

## 1.4 Research objective and research question

The research objective of this study is **to investigate what the influence of spatial planning is on ecosystem services provision for children in newly developed neighbourhoods on infill locations in the Netherlands**. The previously mentioned studies underline the importance of nature and play and also indicate that children favour playing in nature; yet, they also express that accessible opportunities for engaging in this type of play are often limited (on neighbourhood level).

Spatial planning of new or redeveloped neighbourhoods happens at the municipal level. Policies are in place to capture the vision of the municipality on certain topics and thereby ensuring that these are taken into account when deciding on and planning for, for example, new development projects. Often, larger projects such as housing projects are delegated to project developers. Whilst policies and general influence from municipal level can steer the project in the envisioned direction, there are no binding rules on, for example, nature provision or play provision from higher governmental levels. Municipalities and project developers can therefore essentially decide on these topics for themselves. The way in which nature and play are valued by the actors involved in this process is therefore crucial for its outcome.

Public interest plays a large role in this discussion, as in most spatial planning discussions. Arguably, any new development should serve the public interest of the people that will make most use of said development to the best of its ability. A new neighbourhood should therefore provide its future inhabitants with sufficient means to be able to live a healthy life – which should also hold true for children. Nature provision has been shown to have a multitude of positive effects on people of all ages and is especially beneficial for young children. These effects that nature provides for people are known as ‘ecosystem services’. Using these concepts, it is investigated whether or not the target group – ‘children’ – is taken into account sufficiently and justly in the spatial planning process and how their needs are met; especially when children cannot yet express these needs for themselves.

This is studied through desk and field research. The desk research is essentially conducted prior to and in preparation of the field research, but both are intertwined and combined throughout the study and in the report. In the field research, interviews are conducted with experts on the topic. Interviewees are, among others: municipal officials, project developers and landscape architects.

It needs to be stressed that the goal of this study is not to plea for children to play outside more, but more so to investigate the current state of affairs in spatial planning of child-friendly urban green space in newly developed neighbourhood projects. Instead of focusing on children themselves and accrediting the decline in outside play to their own fault, it is researched how professionals could contribute to lessening or even reversing this negative development.



Whilst many articles argue in favour of children's play in nature and often suggest that this is usually also preferred by children, it needs to be acknowledged that other (international) studies indicate that whilst natural areas are directly accessible for children, play still mostly takes place in the formal playgrounds and that children not visiting natural areas for play is mostly related to social rather than environmental factors (Gundersen, Skår, O'Brien, Wold, & Follo, 2016; Skar, Wold, Gundersen, & O'Brien, 2016). Still, this might be more context-specific; most research – and Dutch research in particular – does indicate that natural environments seem to attract and are preferred by children as a play environment.

Yet, this study does not presume that the implementation of any natural environment in a neighbourhood that houses families with young children will automatically result in an increase of children playing outside in that neighbourhood. This study will not look into this effect either. However, the general scientific consensus on the importance of nature for people, and young children especially, makes investigating the spatial planning process behind the provision of natural environments in the place where these children will spend most of their early lives a relevant topic.

Subsequently, guiding the structure of this report are the research questions. The aim of this research is to answer the general research question (GRQ). In order to do this in a thorough and comprehensive manner, the GRQ is subdivided into research questions that break down the main question into smaller bits. These questions are the specific research questions (SRQs) and serve as a means to progressively guide the research towards answering the GRQ.

For the sake of clarity, only the GRQ is stated in this chapter. This is the main question that will be answered concluding this report. In order to provide you, the reader, with the thought process that has gone into developing the SRQs, these will be stated and explained later on in the text. It is first important to understand the terms and principles that are dealt with in this report and to provide and discuss the theories and concepts that are used to analyse the data. On that basis, then, the relevant questions are set out that need to be answered in order to come to a comprehensive and conclusive answer to the GRQ.

This study will attempt to answer the following general research question:

*“What is the influence of the spatial planning process of neighbourhood project development in the Netherlands on the provision of ecosystem services for children?”*

## 1.5 Reading guide

This report is structured as follows. Following this introduction, chapter two presents the theoretical framework wherein the relevant theories and concepts on the topic of nature provision for children that are used in this study are set out. Next, in chapter three, the specific research questions are provided and the subsequent methods applied in this research are discussed. In chapter four, the results gathered from conducting this research are presented and structured in accordance with the theoretical framework. This chapter is divided up into two main sections; one for each case studied. The results are then discussed in chapter five; after which, in chapter six, conclusions are drawn and the research questions are answered. Finally, in chapter seven there is critically reflected upon the conducted research and recommendations for further research are presented.

## 2. Theoretical framework

In this chapter, the theory and concepts deemed relevant for this study are covered. The subject of spatial planning of child-friendly natural environments on neighbourhood level covers a range of topics that are important to consider and clarify. These topics are divided into three interconnected categories: *children’s interests*, *ecosystem services*, and *environmental justice* (in project development). For these categories, the aspect of ‘children’ is the common thread, since it is the primary object of focus through which this study is conducted. Each category is divided into subcategories to elaborate upon topics and theories that were deemed relevant to discuss in this report.

The three categories, *children’s interests*, *ecosystem services*, and *environmental justice*, can essentially be viewed as being the ‘what’, ‘how’ and ‘analysis’ of this study, respectively. The following table presents these concepts in a structured way, showing how they are applied in this study. ‘Ecosystem services for children’ is the studied topic. The context in which this topic is studied is within a municipality and, subsequently, an ongoing neighbourhood development project. Finally, and combinatory, it is then investigated whether these children’s interests (in the form of ecosystem services) are taken into account adequately within the spatial planning (process) of neighbourhood development.

<i>What is the topic of research?</i>	<i>In what context is it studied?</i>	<i>How is it analysed?</i>
Ecosystem services (ES) as a children’s interest	<ul style="list-style-type: none"> <li>▪ Municipal government level</li> <li>▪ Neighbourhood project development</li> </ul>	Environmental justice of ES for children in project development

*Table 1: The theoretical concepts, their interlinkages and their application.*

Following, the relevant theories for further structuring this study are set-out and the conceptual framework for undertaking this thesis is developed. This framework can be seen as the angle or ‘glasses’ from which the researched subject is studied. The use of this framework ensures that this study can be conducted in a structured way and provides the study with a basis from which findings are interpreted.

## 2.1 Children's interests

Children have rights. In 1989, the treaty of the Convention on the Rights of the Child was set up by the United Nations. This treaty sets out the civil, political, economic, social, health and cultural rights of children (UN, 1989). By today, 196 countries have ratified the treaty – the Netherlands included; thereby committing to taking steps towards its implementation. This treaty therefore also has – or at least, should have – implications on spatial planning processes, wherein respecting and abiding by these rights should not only be a requirement, but is also in the best interest of both the children themselves and the overall plan (Bornat & Shaw, 2019). In figure 2, articles from the treaty which are specifically relevant for this study are summed up.

<b>Article 3</b>	<p>1. In all actions concerning children, whether undertaken by public or private social welfare institutions, courts of law, administrative authorities or legislative bodies, <u>the best interests of the child shall be a primary consideration.</u></p> <p>2. (...)</p>
<b>Article 6</b>	<p>1. States Parties recognize that every child has the inherent right to life.</p> <p>2. States Parties shall <u>ensure to the maximum extent possible the survival and development of the child.</u></p>
<b>Article 12</b>	<p>1. States Parties shall assure to the child who is capable of forming his or her own views the right to express those views freely in all matters affecting the child, <u>the views of the child being given due weight in accordance with the age and maturity of the child.</u></p> <p>2. For this purpose, the child shall in particular be provided <u>the opportunity to be heard in any judicial and administrative proceedings affecting the child, either directly, or through a representative or an appropriate body, in a manner consistent with the procedural rules of national law.</u></p>
<b>Article 31</b>	<p>1. States Parties recognize <u>the right of the child to rest and leisure, to engage in play and recreational activities appropriate to the age of the child and to participate freely in cultural life and the arts.</u></p> <p>2. States Parties shall respect and promote the right of the child to participate fully in cultural and artistic life and <u>shall encourage the provision of appropriate and equal opportunities for cultural, artistic, recreational and leisure activity.</u></p>
<b>Article 29</b>	<p>1. States Parties agree that the education of the child shall be directed to:</p> <p>(a) (...)</p> <p>(e) <u>The development of respect for the natural environment.</u></p>

Figure 2: List of articles from the 1989 treaty of the Convention on the Rights of the Child that state several rights of children that are applicable to this study. The children's interests are underlined for emphasis.

As can be read in figure 2, article 3.1 shows the importance of taking into account children's interests in decision making. Article 6 is relevant since it stresses the healthy development of the child. Article 12 emphasizes that children should be able to participate in all matters that affect them and article 31 ensures, among others, that children can engage in play and recreational activities. Finally, article 29 is more related to formal education, but is deemed relevant for this topic as well because of its explicit mention of respect for the natural environment which, since children's outdoor play in natural areas has been shown to be directly linked to environmental morality and respect thereof in later years, is a noteworthy consideration (Frantz & Mayer, 2014; Parsons, 2011).

It should be noted that the children's interests described in these articles also touch on the concept of environmental justice; which will be discussed further in this chapter.

### Children's interest ≈ Public interest

The concept of children's interests is very much related to that of the public interest, as expounded here. The public interest has always been a relevant concept as a principle of legitimation and a norm for spatial planning evaluation (Alexander, 2002). One single definition does not exist for this concept; it is now and has always been subject to debate. Ernest Alexander proposed a criterion that simplifies the otherwise complex concept of public interest into a 'measurable' criterion (Alexander, 2002). It states:

*"A plan that does not enhance, or reduces, the welfare of the residents of the designated planning area, is not in the public interest, unless the plan or its accompanying documentation demonstrates compelling public policy considerations in support of its provisions."* (Alexander, 2002, p. 238)

This criterion aims to explain the concept of public interest in a few words and makes it – slightly – more possible to apply the concept of public interest as a tool to use for examining a planning decision's implications on the directly affected party. It is therefore very applicable for examining the subject of this thesis.

It has been stated that a city that is good for children, is one that is good for everyone (Malone, 2017; Ward & Golzen, 1978). What is meant by this is a city wherein children can be children; wherein they can play and discover in a safe and healthy environment. Measures taken in the physical urban environment regarding children's safe moving around – for example car-free zones, footpaths and other child-friendly initiatives – do not only benefit children, but essentially every inhabitant of the city. Of course one could argue that implementing a car-free zone, for instance, is not beneficial for people that live in or have to pass through that specific zone and do so by use of a car, but in the big picture it might still be true; a car-free zone provides not only a safe environment for pedestrians – and therefore also for children – but it also reduces noise and air pollution and, through its increased slow-traffic use, can improve social cohesion (Björklid & Nordström, 2010; Khreis, Nieuwenhuijsen, & Bastiaanssen, 2017; Yassin, 2019). In other words: liveability seems to increase when (such) child-friendly measures are taken (Biddulph, 2012).

More specific to the context of this study, urban green space for children is not only beneficial for them, but also for city dwellers in general. A child can, for example, mainly see or utilize a green environment for its play possibilities (recreational value), whereas other city dwellers could also reap the benefits from other services that it provides such as air- and water-quality regulation, climate regulation, aesthetic value, but also its positive effects on mental and physical health; something which is also very important for the child – as outlined in the introductory chapter – albeit it might not realize this itself (yet).

Thus, the concept of public interest is applied in this study to investigate the planning decisions made for the provision of nature, specifically for children in newly built neighbourhoods. For this study, therefore, public interest and children's interest are viewed as interchangeable.

### Nature provision and the public interest

A logical question to ask yourself is whether nature provision in the built environment, and more specifically in newly built neighbourhoods, can be viewed as being in the public interest? Aside from the mentioned benefits that nature can have on and provide for humans, nature provision can have the primary purpose of actually providing *for nature*; increasing biodiversity and ecosystem functioning within the built environment increases habitat size and ability for species to move and relocate throughout and therefore protects and serves nature itself – whether or not you want to include 'humans' in the concept of nature or not (Savard, Clergeau, & Mennechez, 2000). This can therefore be seen as being in 'nature's interest'.

As mentioned in the introduction, the positive effects that contact with nature has got on the well-being of humans can also be viewed as, for example, a health-promoting measure. For this reason, nature provision can also be seen as being in the people's interest; the public interest.

The following paragraphs will go into more detail about how humans – and children specifically – can benefit from these 'ecosystem services' that nature provides.

## 2.2 Ecosystem services and children

Even with urbanization increasingly taking place around the globe, humans are still dependent on nature for survival – though this human-nature connection is increasingly lost in the modern world (Frantz & Mayer, 2014; Ives et al., 2018; Ives et al., 2017; Louv, 2008). It can be argued that cities themselves depend on and benefit from urban ecosystems; when you consider humanity to be a part of nature and cities to be our ecosystems – or at least comprised of several smaller ecosystems (Bolund & Hunhammar, 1999; Rebele, 1994).

The benefits humans can derive from ecosystems are called ‘ecosystem services’ (Bolund & Hunhammar, 1999). More specifically: “*Ecosystem services are the conditions and processes through which natural ecosystems, and the species that make them up, sustain and fulfill human life*” (Daily, 1997, p. 3).

Ecosystem services are generally categorized into *provisioning services*, *regulating services*, *supporting services* and *cultural services* – as presented in figure 3 (Millennium Ecosystem Assessment, 2005).

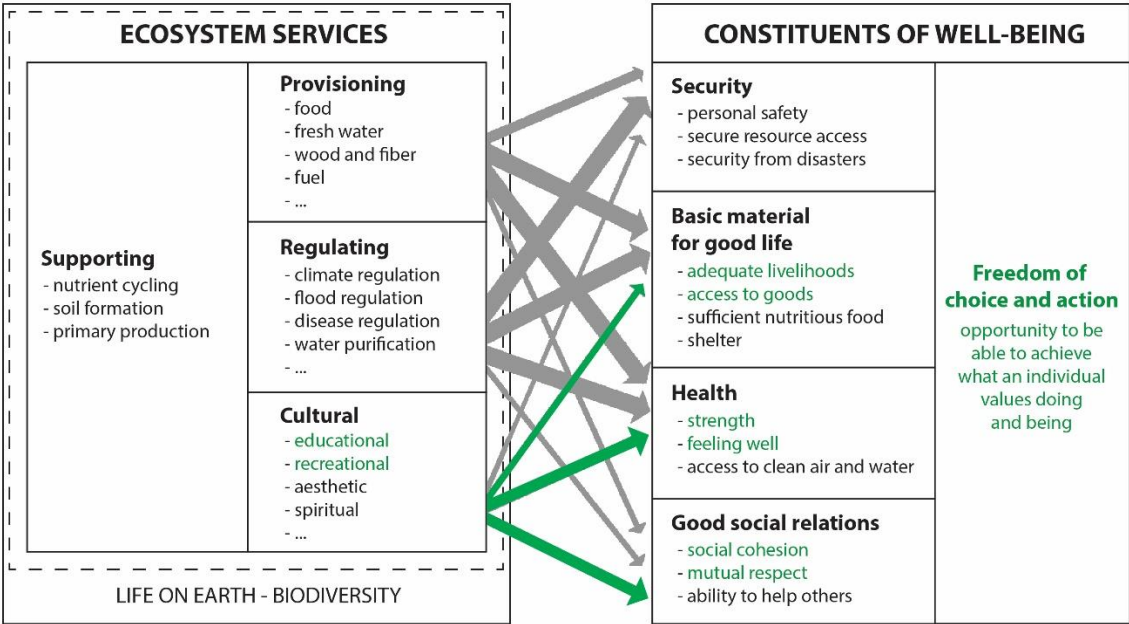


Figure 3: Categories of ecosystem services and their linkages to constituents of human well-being. The aspects especially relevant for this study are highlighted in green. Adapted from “Ecosystems and human well-being”, by Millennium Ecosystem Assessment, 2005, p. 15.

As can be seen in this figure, for this study, the most relevant is the *cultural* category, since this research focuses on the benefits of nature; specifically for children. Primarily, outside play in nature has got a recreational and educational purpose for children through which they are provided with a suitable living

environment, (physical and mental) health benefits, social developmental benefits and a freedom of choice and actions, which are the main and motivating points of interests for this research – as also derived from the literature mentioned earlier.

The use of ecosystem services as a spatial planning tool offers the consideration of the multiple functions that nature has to offer and their relation to human health and well-being when a decision or spatial implementation has to be made (Haaland & van den Bosch, 2015). Integrating ecosystem services into urban planning can therefore be a promising approach towards more sustainable development because it aims at making these services explicit, which can impact and promote discussions and weighing of options in decision-making between ecological and socio-economic aspects. Better communication of the advantages of urban green space in a planning context has been identified as being of potential therein (Kabisch, 2015).

Even though awareness of the relevance of (taking into account) ecosystem services is growing, it can still be a challenge to find relevant and significant indicators for quantifying and using them for decision-making and spatial planning projects; especially when the indicator deals with such ambiguous concepts as ‘recreation’ or ‘education’ and their effects on ‘mental and physical health’, as is the case in this study (Albert, Aronson, Fürst, & Opdam, 2014; McKenzie et al., 2014). The influence of nature on ‘health’, for example, is not generally easily measurable – especially on the short term – and, moreover, health is influenced by range of different aspects. These concepts, therefore, may not lend themselves well to being quantified, even though the ‘measurability’ aspect of a tool like ecosystem services is often viewed as the motivating factor to employ it in the first place (Bagstad, Semmens, Waage, & Winthrop, 2013; Crossman, Burkhard, & Nedkov, 2012; Plieninger, Dijks, Oteros-Rozas, & Bieling, 2013). Basically, this means that it is difficult to put a number on green, particularly when viewed from a ‘cultural ecosystem services’ perspective.

Furthermore, the term ‘ecosystem services’ might not be explicitly mentioned or considered in some spatial planning processes or policy, whereas indirectly they are recognized – yet not called by its name (Albert et al., 2014; Kabisch, 2015). For this reason, it is deemed especially interesting for this study to investigate whether or not ecosystem services – as a children’s interest – are taken into account in the spatial planning process of neighbourhood project development and, if so: how they are viewed?



## 2.3 Project development and environmental justice

The context wherein this subject is studied is in the spatial planning process of a neighbourhood project development. Whether or not everyone's – including children's – interests, are respected and taken into account in such a project can be evaluated by examining environmental justice. Environmental justice is defined as:

*“The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies”* (EPA, 2019).

Even though this definition is clarifying to an extent as to what environmental justice entails, it is still difficult to evaluate the environmental justice of a spatial planning project or process by this definition alone. Still, this definition of environmental justice, moreover; the definition of 'justice' itself is quite conceptual and open to interpretation. In order to make more objective statements about environmental justice in, for example, a spatial planning project, it needs to be distinguished what aspects to look at when analysing said project. David Schlosberg (2004) has broken down the concept of environmental justice and identified three dimensions of environmental justice: *distribution*, *recognition* and *participation*. These three dimensions of environmental justice are not separate entities, but overlap in practise – as will become clear in the following paragraphs. Still, together they can be used to assess more structurally, environmental justice in a spatial planning process. Following is an explanation of each dimension.

### Distribution

Distributive justice is about the equitable distribution of both environmental amenities and hazards among the public (Schlosberg, 2004). Examples of this given are equal access to potable water, but also equal exposure to air pollution. For children, the right to distributive justice is enshrined in article 31.2 in the earlier discussed treaty of the Convention on the Rights of the Child (see figure 2). Distributive justice on the topic of urban green space for children on neighbourhood level would mean that every child in the neighbourhood has got a sufficient amount, quality and proximity of urban green space. Distributive justice on neighbourhood level is only of relevance, however, when the neighbourhood scale is to a certain degree large enough to evaluate this; in a small neighbourhood wherein every place is within accessible distance, even for children, one might argue that distributive justice is of less concern. From an egalitarian point of view, to distribute public facilities throughout a neighbourhood as 'distributively just' as possible is – paradoxically – impossible, since not everyone would be as close to every facility as the other. Also, what constitutes a 'decent' or 'sufficient' living environment is different

for everyone. As Harry Frankfurt argues with his ‘doctrine of sufficiency’, what is herein important is not relative equality, such as is argued in egalitarian doctrine, but more so whether somebody ‘has enough’, which is seen by Frankfurt as a standard of reasonable contentment that may differ from person to person and from circumstance to circumstance and is therefore non-comparative (Frankfurt, 1987). In the case of urban green and playgrounds, it is difficult to say what would constitute ‘sufficient’ in the interest of a child. However, it has to be said that for children, ‘proximity’ is different than for adults. Young children especially might not be able or allowed to travel certain distances and are therefore less inclined to visit a playground further from home than the one close-by (Bouwmeester, 2006). Moreover, as mentioned earlier, in the treaty of the Convention on the Rights of the Child, article 3.1 and 6 make clear that the ‘child’s best interests should be a primary consideration’ in all actions concerning children and that the survival and development of the child should be ensured ‘to the maximum extent possible’ (see figure 2). ‘Sufficient’ or ‘decent’ conditions of living for children are therefore understatements compared to what is aimed for and agreed upon by every nation that has ratified the treaty. As Jonkman and Janssen-Janssen argue, distributive justice depends on “*the understanding of justice and the standard applied*” (Jonkman & Janssen-Jansen, 2018, p. 371). One could, judging by the treaty, argue that the standard used for consideration of children’s interests is – or at least should be – very high. On this basis, distributive justice will be evaluated by determining how invested the actors in the project development process are in striving to provide an equitable distribution of ecosystem services for children – if provided at all.

## Recognition

Next, recognition, is about acknowledgement of the diversity of participants affected by decisions on environmental matters (Schlosberg, 2004). Oftentimes, this concerns ethnical or cultural differences, but it can also be linked explicitly to children; differences in perceptions of children – which are often disparate from that of an adult – and differences between children themselves (age groups, preferences, gender). What often happens, however, is that adults make decisions for children and claim they know what is best for the child. The same is true in spatial planning; when an environment is planned or designed – even one that is specifically aimed at children – the process leading up to the plan oftentimes employs little to no involvement of children (Bornat & Shaw, 2019; Cele & Van Der Burgt, 2015; Driskell, 2017; Malone, 2015; Tisdall, 2008). It is understandable, however, that children may not be able to participate actively in this process, since it is time-consuming and can be difficult to achieve. Nevertheless, recognition of a child’s needs and wishes is important to consider and also acknowledged in the treaty under articles 3.1, 6 and 31.1 (see figure 2). When dealing with subjects concerning or affecting children, it is therefore important that their views are known, recognized and respected. Extensive and valuable research on the subject of outdoor play has been conducted, for example by Jantje Beton, an organization that focuses on and invests in youth facilities and children’s play in particular, monitors every aspect of play and children’s perceptions thereof every so many years (as

cited a few times already). Findings that have been brought forth from these studies, for example, highlight and advocate the use of more green for children's play (Jantje Beton, 2018; Timmermans et al., 2013). These types of studies can be very helpful to gain insight into the latest developments on the subject of outdoor play and the way children feel about the current play environment. When active participation of children is not possible, recognition of their rights and opinions through, for example, desk research is something to strive for. For this reason, the dimension of recognition will be evaluated by analysing whether or not ecosystem services – urban green – are considered to be of importance for children, both on municipal level and by the actors involved on the neighbourhood planning level, as well as how this might or might not be translated in practise.

## Participation

Lastly, participation, or 'procedural justice', is about the way in which decisions are made, for whom, and with whom. Who makes decisions for and concerning other people affected by, for example, environmental policy? Can everyone – including children – participate in the political processes concerning environmental matters? This is an especially important dimension, yet challenging to achieve when talking about children, since this is a group that might not know what is best for them (yet), even though their contribution can be of importance for certain decisions (Hart, 1992). Children should, for example, not be excluded from decisions made on topics that directly affect them; planning and design of play spaces being one of them (Cele & Van Der Burgt, 2015). In the earlier stated treaty of the Convention on the Rights of the Child, this right in particular is stressed under article 12 (see figure 2). However, should children actively participate in such a process or is recognition of their needs enough? Good arguments can be made both for and against participation (of children) in the planning process, so it is difficult to objectively make assumptions on the participative justice of a project. Roger Hart (1992), stated perfectly that:

*“The degree to which children should have a voice in anything is a subject of strongly divergent opinion. Some child advocates speak of children as though they were potentially the saviours of society. But many will say that participation by children is a naïve notion for children who simply do not have the decision-making power of adults”* (Hart, 1992, p. 5).

Since participation is an important dimension in this theory of environmental justice, it is essential to properly take it into account. Hart has come up with a tool for 'measuring' the level of children's participation, called: *The Ladder of Young People's Participation* (Hart, 1992). The ladder and its steps are a metaphor for different rungs, or levels, of children's participation, wherein every step up the ladder is a higher level of participation (see figure 4). It is an adaptation of Arnstein's ladder of citizen participation (of adults), but uses slightly different categories so that it is more applicable to children – Arnstein's ladder of citizen participation is very suitable for studying participation in general, whereas

the challenging nature of children’s participation makes analysis thereof a task in its own right and a specific tool, like Hart’s ladder, was therefore deemed appropriate (Arnstein, 1969; Hart, 1992).

The eight rungs, from lowest to highest level of participation are: *manipulation, decoration, tokenism, assigned but informed, consulted and informed, adult-initiated shared decisions with children, child-initiated and directed* and *child-initiated shared decisions with adults*. This ladder will be used as a sub-theory of the environmental justice theory to identify the level of children’s participation in the project development process, which is deemed relevant for being able to make objective statements on this topic and assign this aspect of the process with a more coherent characterization.

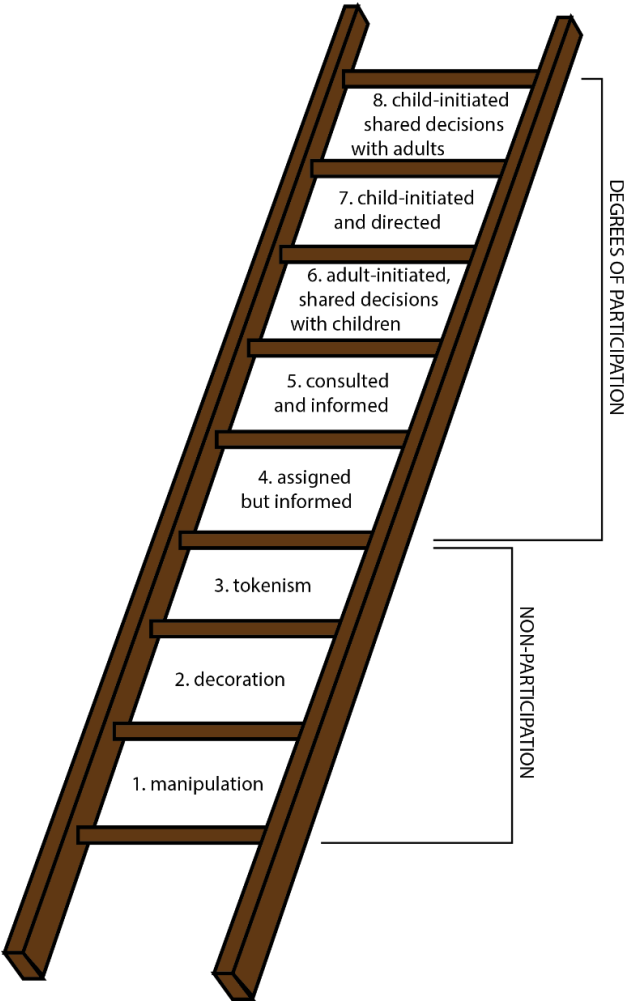


Figure 4: Ladder of Young People’s Participation. Adapted from “Children’s Participation: From tokenism to citizenship”, by R. A. Hart, 1992, p.8.

## 2.4 Conceptual framework

In this study, it is examined if ecosystem services as a children’s interest – whether explicitly or implicitly – are referenced as a tool to substantiate spatial planning decisions concerning child-friendly urban green space in neighbourhood project development. As mentioned, this is investigated both on the municipal level and the project level. Using Schlosberg’s theory, it is investigated how environmental justice in the provision of these ecosystem services for children is taken into account when planning urban green space in neighbourhood project development.

The three concepts expounded in this chapter are combined to structure the research. The following figure summarizes the proposed research design in a conceptual framework. While the concepts are assigned to specific aspects of the study to in the figure, they are not solely applicable to these aspects alone, but rather used in combination throughout the research; as could be read in this chapter, these theories and concepts are very much intertwined. Ultimately, the conclusion of this research will focus mainly on environmental justice, but the other two concepts are crucial for setting out the research and supplying thorough answers to the research questions (see figure 5).

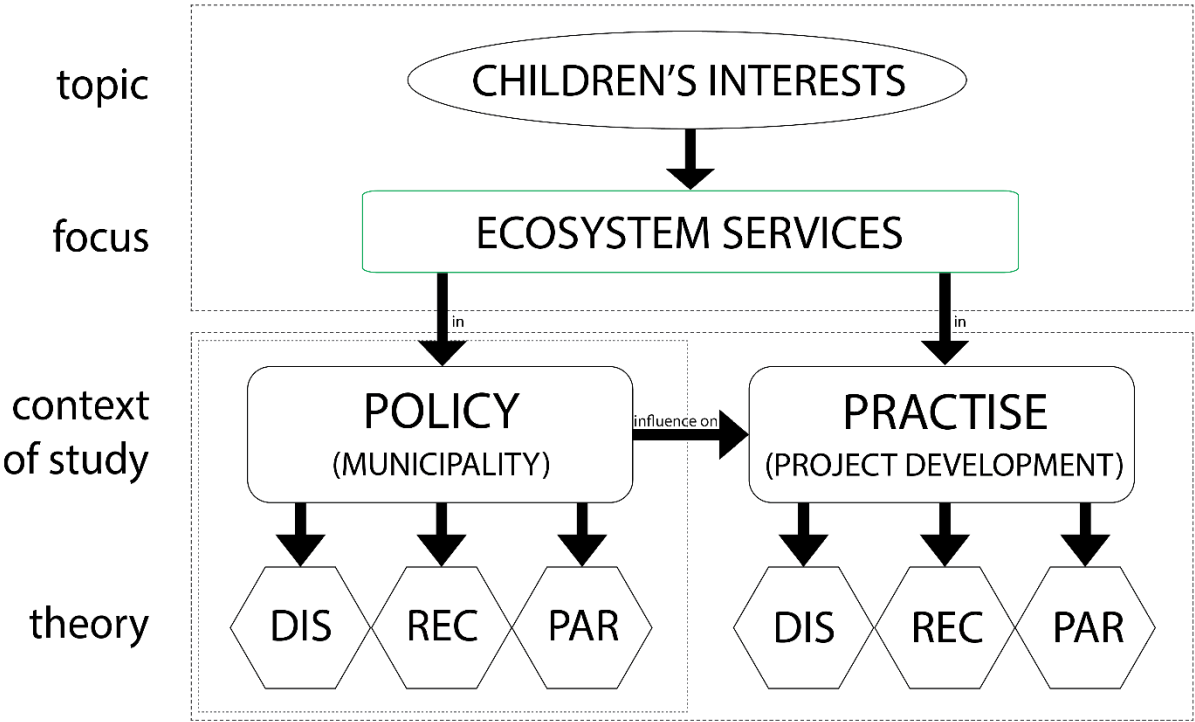


Figure 5: Research design framework. As mentioned, the findings are presented according to Schlosberg’s three dimensions of environmental justice: distribution, recognition and participation – here represented by ‘DIS’, ‘REC’ and ‘PAR’ respectively.

## 3. Methodology

To be able to provide a strong, structurally sound answer to the research question, a translation from theory to empiricism is necessary. In this chapter, the decisions made on the type of research case selection, data and methods applied in this study are set out, discussed and justified. Also, the specific research questions are presented.

### 3.1 Research strategy

The question “*What is the influence of the spatial planning process of neighbourhood project development in the Netherlands on the provision of ecosystem services for children?*” is answered through conducting qualitative comparative case study research.

Qualitative research employs data and provides results in the form of words, whereas quantitative research does so in numbers. By looking at the question posed, it seems only logical that it be answered in a verbatim manner. More specifically, a qualitative research design is appropriate to employ since this study is exploratory in character and little specifically relevant data is available – this aspect of spatial planning had not been studied as of yet (Gerring, 2006). What is more, qualitative research is fitting, because herein the participants’ experiences can be touched on and examined in depth without which a significant knowledge gap would possibly be left in the practical understanding of the subject and the opinions and motivations given for the decisions presented (Creswell & Creswell, 2017). Creswell & Creswell (2017) furthermore state that qualitative research focuses on people’s stories and beliefs, and this experience of actors involved in the spatial planning process of a neighbourhood is deemed valuable and contributory to the growing body of research on the subject of nature provision for children. For this reason, it was attempted to gain insight into the real-world situation of spatial planning for green environments (for children) in neighbourhood project development and to give the stakeholders that deal with this subject directly an opportunity to elaborate upon their views and way of doing things.

Comparative case study research, furthermore, has as its goal to “*discover contrasts, similarities, or patterns across the cases*” (Mills, Durepos, & Wiebe, 2009). This was deemed fitting with the subject of neighbourhood planning, because no one case is similar to another; there are countless circumstantial variables of influence on such a(n often large) development, from many possible angles – political, situational, socio-economic, environmental, etcetera. Therefore, focusing on a single case, while beneficial to the thoroughness of the findings, would provide results which might not be applicable in

other cases and can therefore not be of use when one would, for example, want to learn from or apply these findings in practise. Thus, comparing two cases can provide the research with a more comprehensive insight into the way – or, possibly more so, the different ways – in which provision of urban green space in newly built neighbourhoods happens in the current day and age of spatial planning in the Netherlands. Moreover, the advantage of comparing two cases which are, in theory, similar – read: both in accordance with the formulated case selection criteria – is that a greater external validity of the findings could be achieved. During the research, one might for example find that an aspect which holds true in one case is found to be congruent or discordant with the same aspect in the other case; either way, a broad perspective on the topic at hand is provided, which can therefore be more representative for other similar cases.

### 3.2 Specific research questions

The specific research questions (SRQs) are the questions that stem from breaking down the general research question (GRQ) into smaller and more constructively answerable bits. Following the previous chapter, wherein the relevant concepts and theories used in this research were expounded, the specific research questions derive from and apply these concepts and theories in order to be adequately answered.

The general research question is broken down into three specific research questions. These are presented in the following table along with their respective types of research and research methods necessary for answering them – which will be discussed further in this chapter.

<i>“What is the influence of the spatial planning process of neighbourhood project development in the Netherlands on the provision of ecosystem services for children?”</i>		
Specific research question	Type of research	Research methods
<i>1. “How are ecosystem services as a children’s interest integrated into municipal policymaking and policies related to children?”</i>	Desk/field	<ul style="list-style-type: none"> <li>▪ document analysis</li> <li>▪ semi-structured interviews</li> </ul>
<i>2. “How are ecosystem services and children viewed in the process of neighbourhood planning?”</i>	Field	<ul style="list-style-type: none"> <li>▪ semi-structured interviews</li> </ul>
<i>3. “How environmentally just is the spatial planning process of urban green areas for children in neighbourhood development?”</i>	Field	<ul style="list-style-type: none"> <li>▪ semi-structured interviews</li> </ul>

Table 2: Specific research questions and their consecutive research types and research methods.

As can be derived from the questions, *children’s interests* and *ecosystem services* are the first two concepts that are applied and deemed necessary to discuss for thoroughly understanding the context in which the neighbourhood development takes place as well as setting out the involved (interviewed) actors’ perspectives on these topics.

Therefore, answering the first specific research question employs these two concepts of children’s interests and ecosystem services to investigate how these are viewed and incorporated within the municipality wherein the neighbourhood development is situated. This is studied in the first specific research question through analysis of the public policies related to children, that are in place in the municipality, as well as by interviewing municipal professionals that (might) deal with this topic. This



question was posed – and answered – to get a baseline understanding of the municipal context, since this can have significant influence on the development.

Next, the second question applies the same two concepts as utilized in SRQ1, but zooms in on the project itself; more specifically whether or how ecosystem services for children are used to substantiate decision-making in the spatial planning process of the project development. Interviews with actors specifically involved in the neighbourhood development selected for this study – which is discussed later in this chapter – were held to obtain the necessary information needed for answering this question.

Thirdly, these findings were applied and combined with Schlosberg’s theory of *environmental justice* for answering the third specific research question. By making use of this theory, it was attempted to be able to make objective statements about the way in which *ecosystem services* as a *children’s interest*, were incorporated in the spatial planning process of the neighbourhood development – if at all.

The general research question encompasses these three questions as a whole.

To summarize, the relationship between the research questions and the conceptual framework is illustrated in figure 6.

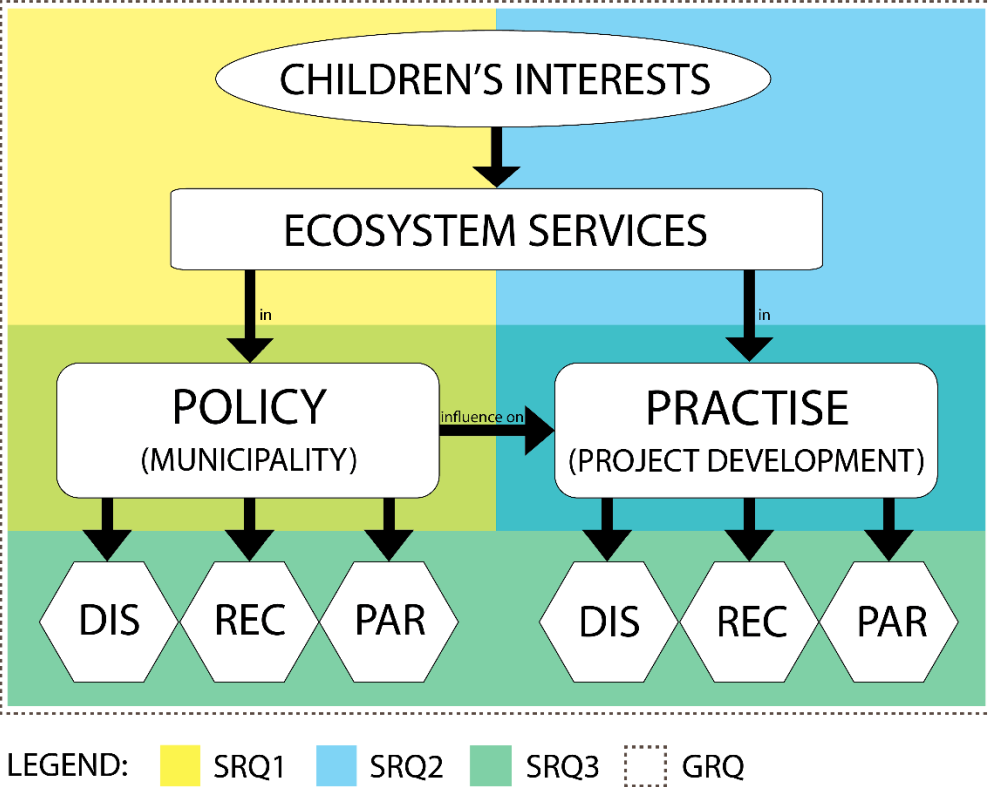


Figure 6: Conceptual framework and its relations to the research questions

### 3.3 Case selection

There are many possible options for studying the subject of the spatial planning of child-friendly natural environments in neighbourhoods. Essentially, any neighbourhood can be studied, whether it is developed, ongoing or merely planned; an older or a newly built neighbourhood; situated in a ‘green’ municipality or not, etcetera. Deciding which case to select can therefore be seen as either a difficult or very easy task, considering the amount of options one can choose from. What is most important is to be able to motivate and elaborate upon the decision made. This, along with a brief introduction to the selected cases, is substantiated in the following paragraphs.

#### Case selection technique

Two *typical* cases were selected, because typical cases can be viewed as ‘average’ cases that are representative of a broader set of cases. This means that investigating such cases also bears the possibility of deducing the outcome to a large number of comparable cases wherein, should a similar study be conducted; relatively similar results could likely be found (Gerring, 2006). Typical criteria for case selection in this study include *urban area* and *small/average sized city*.

In addition, an *extreme* case selection criterion was added, namely: *infill location*. Yet, this criterion fits with typicality as well, based on the prediction of an increasing shift from development of outer-city locations (expansion or urban sprawl) towards redevelopment of old depreciated industrial sites, ports and other infill locations (van Lemmen, 2012).

Aside from the three criteria belonging to the typical or extreme case selection technique, two more criteria were selected; more so on the basis of practicality and applicability to the studied subject. Respectively, these are *type of neighbourhood* and *development stage*.

A more thorough clarification of the selected criteria can be found in the following paragraphs.

#### Case selection criteria

##### *Urban area*

Urbanization is a global (typical) trend: it is predicted that by 2050, most of the world population – as well as the Dutch population – will be living in urban areas (UN, 2018).

##### *Small/average sized city*

Only a few cities in the Netherlands can be classified as large cities and the majority of cities is average to small size – thereby constituting the greatest typicality (PBL/CBS, 2016). Moreover, average-sized cities are increasingly becoming more popular for home-buyers, largely because the pressure on the housing market in the largest cities has become too high. It is predicted that, for this reason, much

development will be taking place in these average sized municipalities in the future (BPD, 2017; PBL/CBS, 2016).

### *Infill location (re-development)*

Infill locations, or redevelopment locations, are often situated on dated, obsolete plots of land that have lost their (previous) function and which are still or have previously been owned by private parties; therefore, many interests are involved (van Lemmen, 2012). Land prices of infill locations are often much higher than on expansion locations and, for this reason, the development of dwellings is high on the list of project development, since the investment of purchasing land has to be recouped; buildings are worth a lot more than green. What is more, it is known that the pressure on green space is high in urban areas and it is assumed to especially be the case in an urban redevelopment location with a housing destination (Bornat & Shaw, 2019; Giezen et al., 2018; Haaland & van den Bosch, 2015). Moreover, demand for housing on such locations is often higher than its supply, due to increasing urbanization (Vermeulen, de Groot, Marlet, & Teulings, 2011). By selecting a case situated on an infill location, therefore, the dynamics of deciding between ‘red and green’ (buildings and public space) are highlighted and an insight into the seemingly difficult task of finding a balance between the two can be given (Jókövi & Luttik, 2003; Kempenaar, van de Laar, & van Rijkevorsel, 2009; Stoffelen, 2016). The outcome of this process determines the final plan and its implementation. A case can be successful in its provision of natural environments (for children) or not; either way, important lessons can be extracted from studying the spatial planning process that led up to its final result.

### *Type of neighbourhood*

According to neighbourhood theory, there are multiple types of neighbourhood that can be distinguished. The type of neighbourhood affects the way a topic can best be studied (Park & Rogers, 2014). Park and Rogers recommend a distinction of four different levels of neighbourhood, ranging from small to large: *face-blocks*, *residential neighbourhoods*, *institutional neighbourhoods* and *communities* (Park & Rogers, 2014). Without going into the specifics of each neighbourhood level, for this study the ‘correct’ neighbourhood level was determined to be the *residential neighbourhood level*. Residential neighbourhoods are ‘the smallest units with shared identity’, with typically 500 to 5,000 people on 15 to 500 acres of land, in theory. They are often ‘homogeneous in design, demography and socioeconomic status’. Residential land use is central. Such size neighbourhoods are the ‘minimum planning’ units for developers from the private sector. They are generally regulated through specific planning tools, such as subdivision regulation or restrictions and site plan approval or design review – often by the municipal government (Park & Rogers, 2014, p. 27).

### *Development stage*

The final criterion for case selection is the stage of development that the neighbourhood was in at the time of conducting this research. Preferably, the process had either recently finished, and the

neighbourhood is therefore (nearly) fully developed, or the process of development was still taking place – at the time of study – but was approaching its final phases. The reason for this is the fact that of these projects, information gathered from interviewing the actors involved is still current and fresh from their memory; therefore most accurate and valid. On the other hand, studying the planning process of a neighbourhood development project that has only recently commenced is deemed less pertinent or interesting since the dynamic between the actors has most likely not reached the critical decision-making stages that are relevant for the topic of spatial planning of urban green or, more generally, the designing and development of public space. Public space – for example: playgrounds and greenery – is usually the last aspect of a housing project that is developed and is therefore deemed best to study in a case wherein the planning process has – at least in part – reached this stage of development.

### Cases selected

Using these criteria, two cases were selected for this study: ‘ENKA’ in Ede and ‘Waterfront’ in Harderwijk – both newly developing neighbourhoods. The municipality, herein, is the context in which the neighbourhood is placed. Both the municipality of Ede and Harderwijk influence the project development through their decision-making. The municipality can engage passively, for example through policies that are in place, and actively by e.g. being part of the project development group. For this reason, both the municipal level as well as the project (neighbourhood) level are studied. The location of the cases is schematically projected in the following figure.

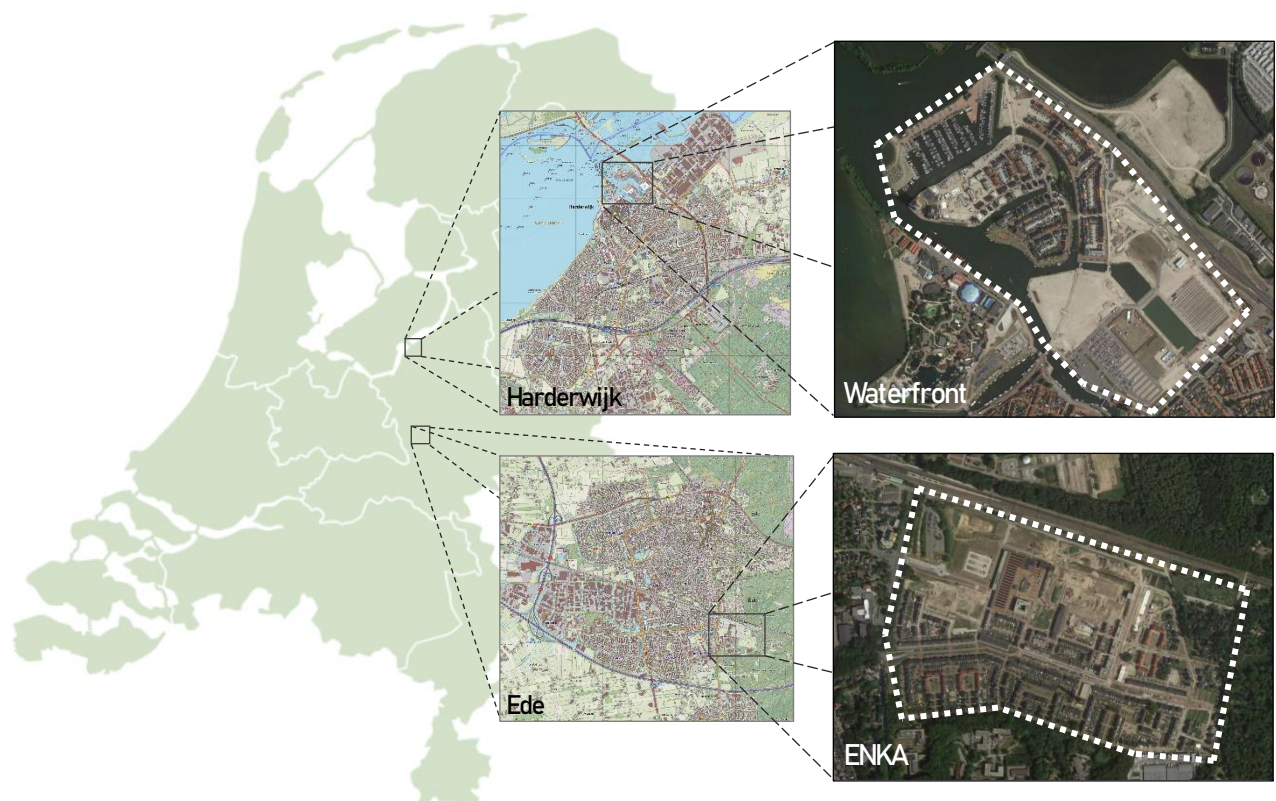


Figure 7: Location of the selected cases on national, regional and neighbourhood level, respectively.

Following is a brief explanation of both cases, consisting of a short introduction of the project and some specifically relevant information for this study. The information is derived from the interviews, websites and brochures of both neighbourhoods.

### *ENKA*

The ENKA area is the former industrial site of the ‘ENKA’ factory (a wordplay on the Dutch pronunciation of ‘NK’; the abbreviation of ‘Nederlandse Kunstzijdefabriek’) and is located between the east side of the city of Ede and the Veluwe; a nature area covering approximately 1,000 square kilometres. Around the year 2000, it was announced that the terrain would become available for (re)development. Following, the masterplan for this development was established in 2005, and in 2009 a zoning plan was developed, after which construction of subsections could commence. The development is – at the time of writing – in its final stages. The project is led by the project developer and the municipality employs a facilitating role.

The ENKA terrain is approximately 42 hectares wherein around 1,300 homes are planned, along with multiple facilities. Even though a variety of living environments is planned in ENKA, the brochure and website seem to emphasize ‘green’ and ‘nature’; even in combination with ‘children’ and ‘play’. Among others, the wooded area surrounding the terrain; the connection with the National Park ‘de Hoge Veluwe’ and the overall green set-up of the neighbourhood are viewed as fundamental qualities of the plan.

### *Waterfront*

The Waterfront development is – like ENKA – also situated on a former industrial site. It is located in the north-west of the city of Harderwijk, directly adjacent to both the city centre and the waterside – the ‘bordering lakes’ (Dutch: Randmeren).

The project is divided up into three sections or phases, of which phases two and three are of relevance for this study – phase one consisted of relocating the businesses that were formerly present on the site. Phase two and three combined cover 53 hectares – of which around 38 hectares are available for housing – and both consist of the development of 700 dwellings; so a total of 1,400 homes are constructed, among other facilities. An interesting aspect of this subdivision is that both phases are developed under different direction; phase two is led by the project developer (a cluster of private parties) – similar to the situation of ENKA – and phase three will be led by the municipality itself.

While the initial ideas for the development date back to 1996, the masterplan was finalized in 2003. In 2005, the bid book for phase two was created and was tendered in 2006. From then onwards, construction commenced.

The main focus in this study was placed on the development of phase two, since this phase has already advanced to its final stages – (construction for) phase three has yet to commence. Still, information

deemed relevant from the phase three development was also taken into account and serves as added comparison to phase two when suited. In the remainder of this report, for readability reasons, when there is referred to 'Waterfront', this implies 'Waterfront phase two', unless specified otherwise.

### *Comparison*

Interestingly, where the main selling point of ENKA seems to be its integral green set-up and connection thereto; for Waterfront, aside from some minor mentions of green – one of which being about 'natural play facilities' – the focus is placed more on the 'water' and 'urban' aspect of the development. From a contextual perspective, this can be deemed logical; whereas ENKA is located in a greener environment, Waterfront is located in an urban environment next to water.

## 3.4 Data collection and analysis

The qualitative data sought for was partly collected through desk-, and largely through field research. As mentioned, this research employs a qualitative case study design. This means that, with desk research at its base, data was also collected from actual cases wherein the studied subject could be examined in an empirical way so as to dive deeper into the matter; not merely through an investigative theoretical research, but more so in an explorative way, applying the knowledge acquired to study a real-world situation.

The desk research consists of a literature review and policy document analysis. The field research was conducted by interviewing ten actors that were/are closely connected to the spatial planning process of urban green areas in the selected cases. In the following paragraphs a more detailed description of the types of research applied in this study is presented, as well as the way in which data thereof was collected and analysed.

### Desk research

#### *Literature review*

In order to comprehensively tackle the topic at hand, it was necessary to first dive into the literature that had already been published on this topic. Relevant topics include: *ecosystem services, urban green space, outside play, children's interests, environmental justice, spatial planning, child-friendly, neighbourhood planning* and *project development*. To gain insight into these topics, papers were gathered via Google Scholar wherein these topics, whether separately or combined, were discussed. It was attempted to include recent studies and/or more established, often cited studies. Most of these relevant studies were discussed in the previous chapters.

#### *Document analysis*

The other form of desk research employed was a policy document analysis. Policies can be made on any level of government and encompass the way certain topics are viewed within that governmental level. The Netherlands is a decentralised unitary state, which means that tasks, powers and responsibilities are assigned at various levels of government. This system is based on the principle “*decentralised what can be done, central what must be done*”<sup>2</sup>, which is the same principle that is applied in the Spatial Planning Act (Dutch: ‘Wet ruimtelijke ordening’ or ‘Wro’) of the Netherlands (KCWJ, 2019). This decentralization has led to municipal and provincial government – as well as water boards – having increased authority over certain tasks and aspects of civilization previously covered by national

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<sup>2</sup> Original Dutch translation: "*Decentraal wat kan, centraal wat moet*".

government policy. The municipal government level was deemed most relevant for the subject of this study and therefore the level which is focused on.

Municipal policies comprise the way in which certain issues are regarded and handled within that specific municipality. Policy, therefore, is an important tool for substantiating and motivating decision-making – for instance on the subject of spatial planning. Through the setting up of policies, municipalities capture their standpoints and so it is possible for municipal workers as well as inhabitants of the municipality – or anyone else interested, for that matter – to comprehend the way in which, for instance, children’s play is viewed and what (concrete) measures are or will be taken to achieve this vision. It is a document for anyone to consult and fall back on. Moreover, policy has been identified as an important factor of influence on play provision; policies related to planning and provisioning for play environments can be incoherent and therefore fail to provide a structured framework for professionals on how to deal with children’s outside play (Bouwmeester, 2006; Malone, 2017; van den Bogaard et al., 2009). In a baseline measurement on the state of policies for play in municipalities in the Netherlands, conducted in 2007; 74 percent of the municipalities that took part in the study had some type of policy framework in place on the subject of outside play and meeting in public space – with large differences between municipalities in their approach of play (VROM, 2007). What was not considered in this, or any other Dutch national study on play policies, is whether or not ‘nature’ or ‘green’ are accounted for in these policies.

Especially relevant for this study is the fact that through policy, a municipality can also have a lot of influence on the way a project is developed, for example. If not directly, relevant policies are at least taken into account for setting up guidelines and rules for a development to take place, so that it can be realized in a way which all involved parties can first agree upon.

#### Relevant policies

Both the municipalities of Ede and Harderwijk have policies in place related to the object of study: the provisioning of ecosystem services through spatial planning of urban green areas, specifically for children, in newly built neighbourhoods. Roughly, there are three categories to dissect from this topic, namely (*spatial planning of*) *green*; *living (quality)*; and (*interests of*) *children*. These categories are not set in stone and overlap in different policy domains.

*Green* and *living* speak for themselves. Policies related to *green* are, for example, policy on green itself, public space, water, and a municipality’s environmental or structural vision (Dutch: ‘*omgevingsvisie*’ and ‘*structuurvisie*’), but green-related topics, especially in connection with children, could also be found in policy on play. Policies related to *living quality* can be found in municipal structural visions (Dutch: ‘*structuurvisie*’) and visions on housing or living (Dutch: ‘*woonvisie*’). *Children*, last but – certainly – not least, were assumed to be considered in a larger array of policy domains, for example: policies on youth, education, health and the aforementioned policy on play and structural vision of the



municipality. With these policy topics in mind, a search for policies for both the municipalities of Ede and Harderwijk was made in order to find out, first of all, if they existed and secondly, whether there were mentions of ecosystem services and/or children – preferably in combination – in these documents; either explicitly or implicitly.

### Policy document selection

For Ede and Harderwijk, the following policies and visions were selected: *policy for play, youth policy, health policy, vision on public space/green, structural vision, vision on living* and *vision on water* – it differed slightly per municipality in which document format a policy was incorporated. A list of the documents analysed is included in the appendix.

It was attempted to find said documents online and, if they could not be found, the municipality would be approached directly; first by phone and otherwise via e-mail. Also, some documents were provided by interviewees. Aside from the policies, the relevant visions of both municipalities, as listed above, could also contain important information on the topic and were therefore also consulted.

After selection of the policy documents, they were analysed in Adobe Reader or Microsoft Word – depending on the format of the document – by scanning through the documents for passages related to the topic. After scanning was completed and the relevant paragraphs were marked, the ‘Search’ tool was employed to follow up with a quick keyword search. This was done to verify that no (possibly) relevant passages had been missed. The keywords searched for are<sup>3</sup>: *child, children, youth, green, nature, natural, (outside) play, playground* and *growing up*. Since this is a qualitative study, the amount of times these keywords were mentioned was not of much relevance; what was important is whether they were mentioned – at all – and, if they were: the way in which the paragraphs on these topics were formulated.

A hierarchy was made in the policy documents selected, based on an expected occurrence of ecosystem services (for children) being mentioned in these documents and whether a policy domain was likely to be directly linked to children. Since children’s play and its (spatial) planning are closely associated to this study, the municipal policies for play were deemed of most importance to inspect thoroughly and were therefore analysed using the coding software Atlas.ti – which will be discussed further in the text. Playing is an activity specifically related to children and their interests and (spatial) planning and designing for play creates physical environments explicitly targeted at children. For this reason it was assumed that if ecosystem services were viewed by the municipality as an important topic for children, they would be taken into account in this policy document.

The quotes and marked passages were then gathered into a text document and grouped based on their link with one of the three dimensions of environmental justice: *distribution, recognition* and *participation*, after which another categorization was made based on association between the different

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<sup>3</sup> Dutch: *kind, kinderen, jeugd, groen, natuur, natuurlijk, (buiten)spelen, speeltuin/speelplek* and *opgroeien*.

excerpts listed. This was done to place together those passages that were linked to each other and thereby creating a comprehensive overview of the policy context and the possible integrality between them.

Finally, aside from the policies, also the brochure and website of each neighbourhood was consulted for mentions of relevant information – green, children and/or play. This analysis applied to the answering of the case-specific research questions and is therefore not taken into account in the municipal analysis. While these brochures and websites have a different function than policies – advertising the project for potential buyers, instead of informing residents about municipal vision – they could include interesting statements on the development of the project and, also, its brief analysis served as background information for the subject-focused introductory passage of the studied case, as could be read earlier.

## Field research

The field research was executed by conducting semi-structured interviews; a common method for collecting more detailed information on complex phenomena (Kumar, 2019). These were held with relevant actors that are closely connected to the spatial planning process of urban green spaces in the selected cases; either on municipal or neighbourhood level – and preferably both. In total, eight interviews were held whereby ten interviewees were heard. Each interview took between 45 to 85 minutes. An interview protocol was set up and employed during the interview as a guide, providing some sort of structure, but also for increasing the external validity of the findings derived from the interviews; assuring that all interviewees were asked – for the most part – similar questions. The interview protocol is added in the appendix.

The interviewees were selected based on their background – job description and (possible) involvement in the studied subject and/or case – and were contacted via e-mail. Those who responded and were available and willing to cooperate in this study were interviewed. It was agreed to keep the names of the interviewees private – kept between the interviewer, the interviewee and the examination board of this thesis. The anonymous list of actors interviewed for this study can be found in the appendix.

The interviews were held in Dutch and recorded using the mobile phone app ‘Smart Voice Recorder’. Afterwards, these recordings were transcribed in textual format, Dutch-to-Dutch, in Microsoft Word. This was done for the researcher – me – to become familiar with the data and prepare it for the next step of the data analysis process. Transcribing the eight interviews resulted in a total of 106 pages of text. Therefore, and moreover because of the anonymity agreement, these transcripts were not included in this report.

The transcription of the interview could then be coded and analysed, for which Atlas.ti was utilized. For this, initial codes were created, a process known as ‘open coding’. This makes the otherwise extensive and unstructured data from the transcripts more manageable. The codes applied were inductively derived from the theoretical framework and relevant literature. After coding each interview transcript, a selection was made in the relevance and importance of each quote to the specific part of the research. This was

based on the research questions. Following, each relevant quote was summarized in my own words, also creating a point-by-point summary of the interview in the process. This called for a thorough reading and rereading of my quotes, whereby I got increasingly more familiar with the data I had actually gathered. This ‘translation’ stage was dependent on my interpretation of the excerpt. It was attempted to increase the internal validity of the findings by contacting the interviewees again after the coding phase and providing them with feedback consisting of this interpretation of each section. This process is called member checking and was conducted to ensure that what was extracted and interpreted from the data was similar to what the interviewees had aimed to get across (Bryman, 2016). The feedback from the interviewees was taken into account in the processing of the data into this report. The data combined with the structure of the conceptual framework then provides a thorough presentation and discussion of the data in this study.

Concerning the anonymity agreement, in order to be able to still refer to the findings from the interviews in the text and make it recognizable which interview is referred to, numbers were assigned to each interviewee and to each specific quote respectively, divided by a colon symbol ‘:’. The first number, referring to the interviewee, ranges from 1 to 8, as can be found in the appendix. The second number refers to the specific code or excerpt of the interview. Also, because they were coded using Atlas.ti, the excerpts from the play policy of Ede and Harderwijk are referred to in the text by the number 9 and 10 respectively – e.g. (9:..) or (10:..).

Finally, it must be mentioned that, since the interviews were held in Dutch and this thesis was written in English, the data, and especially the direct quotations derived from the interviews might slightly differ in interpretation from the original Dutch quotation; still, it was attempted to properly convey the message that was intended to get across.

## 4. Results

This chapter presents the findings of this study. These findings are the result of the conducted research; combining both desk- and field research to form a comprehensive perspective on the subject of the just provision of green in the interest of children in its studied context of both municipal policy and its concomitant neighbourhood development. The findings are structured according to Schlosberg's theory on environmental justice, as expounded in chapter two (Schlosberg, 2004).

The two cases are discussed separately, starting with Ede and followed by Harderwijk, wherein another distinction is made in the sequence of presentation: first, the findings on municipal (policy) level are presented, after which the same is done for the neighbourhood level. In the latter section a reference is sometimes made to relevant information stated in the former section, since the municipal level consequently is of influence on the neighbourhood level. Whilst not necessarily every policy statement that was included in the findings bears a (direct) connection to the selected neighbourhood development, it was sometimes deemed meaningful to mention in order to provide a thorough situational perspective of the municipal context wherein the neighbourhood is placed.

For each section, it was attempted to provide a clear structure whereby findings were organized based on their significance to this study; while some findings may not be explicitly or directly linked to the relationship of children with green per se, they still can be relevant because of their implicit association with one of these concepts. For this reason, 'sub-groups' were created for those findings that were associated with 'children/play **and** green', 'children/play' or 'green', consecutively, and are discretely separated by a paragraph so as to still provide a pleasant reading experience.

Finally, for each level – *municipal policy* and *neighbourhood* – a section was included with somewhat less directly relevant, yet still important notes related to the subject of this study.

## 4.1 Ede / ENKA

### Municipal policy

#### *Distribution*

Specifically related to children, in the context of ‘greening’: the vision on public space states that the municipality wants to maintain and create new small parks and squares spread throughout neighbourhoods, because it “*brings green into the city and enlarges the amount of square meters of green per residence*” (Gemeente Ede, 2016a, p. 26). These places are explicitly viewed as “*ideal for children’s play and meeting*” (Gemeente Ede, 2016a, p. 26).

Distribution of formal playgrounds is determined on the basis of the amount of children, type of play, environmental factors and degree of citizen participation in a ‘cluster’: a section with a central circumference of 150 meters or constrained by physical barriers such as busy roads or water bodies (9:12, 9:13). Furthermore, if an extra playground is needed somewhere, it should be placed wherever space is available and if this is not the case, a possibility might be to utilize or open up a school yard for public use; otherwise, it is stated, there might not be space for a playground (9:18).

Although not explicitly mentioned, children could also benefit from the ambition of equal distribution of facilities, such as ‘having access to green nearby’, which is mentioned in the vision on public space as an important aspect; especially for providing structure (Gemeente Ede, 2016a, p. 14). This is somewhat congruent with the municipal vision for water, wherein is stated that Ede sees the green quality of the adjacent Binnenveld and Veluwe, and their green wedges that interweave into the urban fabric, as a means of counteracting the green fragmentation and the growing and closing together of urban areas (Gemeente Ede, 2017a, p. 16).

Moreover, the vision on living states that provision of a green living environment “*means adding extra green space to new building plans and preserving existing green space as much as possible, as well as adding extra green space to existing residential areas, where the green space is under-represented*” (Gemeente Ede, 2016b, pp. 10-11). The policy plan for trees adds to this that in places where little (possible) space for green is present, it is key to provide green of great quality and on optimal locations; “*everywhere in Ede the most green character possible*” (Gemeente Ede, 2013, pp. 13, 39). Through ‘renaturing’, the ambition stated in the environmental vision is to “*maintain and preserve the existing green in the city*” and, moreover, “*implement new green and water wherever possible*” (Gemeente Ede, 2017b, pp. 42, 47). Whilst more than half of the municipality’s surface area is covered with forest and nature, the city of Ede has “*somewhat lost its connection therewith in the last decades*”, since the focus

has shifted to the city itself. It is now attempted to “*reconnect the urban to the rural again*” (Gemeente Ede, 2017b, pp. 41-42). In the vision on public space it is acknowledged that while Ede’s surroundings are very green; within the more densely populated areas, the amount of square meters of green per residence is lower than the national average (Gemeente Ede, 2016a, p. 12).

### *Recognition*

An important statement made in the play policy document – as well as the DIBOR and also emphasized in an interview – is that although public greenery is not meant to be entered; children’s play is an exception to this rule (2:18, 2:45, 2:60, 9:14). This means that children are allowed to play in all municipal greenery, unless (permanent) damage is made to the greenery or the children are of nuisance to others; wherein severity is subjectively evaluated on a case by case basis, under municipal supervision of the departments of Neighbourhood Management and Surveillance (Dutch: ‘Wijkbeheer’) (9:14). It is furthermore addressed that the entire public space is part of a child’s living environment, whereby (safe) routes to and from play spaces should be considered, but also sustainable play ‘features’ can be provided for (9:14, 9:15). The document notes the example of a fallen tree that, after taking some safety-improving measures, can be used for play; an example that is also underlined in an interview (1:13, 1:14, 9:14). In such cases, the Rules on Attractions (Dutch: ‘Attractiebesluit’) – a nationally enforced set of rules for the safety of play equipment – does not have to apply (9:15). These types of examples are collected and processed into a file that can serve as inspiration for designers and residents (9:15). The DIBOR also mentions that for any case, the possibility of combining green with play should be investigated.

Furthermore, the importance of taking into account ‘informal’ play environments is underlined. Based on studies, it is recognized that only twenty percent of the time, children play in formal playgrounds; eighty percent of play time takes place elsewhere – in informal play environments – which is also pointed out in one of the interviews (2:60, 9:8). In the policy document, it is stated that “*Children never actually play in one place for long unless the living environment forces them to. They prefer to play everywhere (...) Children are guided by their need for play and the possibilities they see in a space. They often choose this kind of informal play area*”, whereby, in spatial planning specifically, it is important to provide “*green and nature that is inviting to play*” and furthermore broad pavements and dead-end or low-traffic streets; a child-friendly public space where a sense of safety is achieved (9:8).

Aside from the play policy, in other policy documents – more integrally – there is little mention of green in combination with children or play. However, in the appendix of the vision on water there is a small note that green rainwater facilities (Dutch: ‘groene hemelwatervoorziening’), such as ‘wadi’s’ or small overflow ponds – first and foremost of importance for storing and managing rainwater excesses – also have a greening function and thereby “*induce play*” and are used as such by children (Gemeente Ede, 2017a, p. 69). In the vision on public space one passage concedes this, stating that the municipality

*“wants to be progressive in coming up with clever, innovative solutions of multi-functional public space”, such as “combining water retention with play and nature”* (Gemeente Ede, 2016a, p. 22).

On the subject of play and children’s interests, an important acknowledgement of recognition of public space for children is made in the policy for play and entails the adoption of a nationally prescribed advice by the former ‘Ministry of Housing, Spatial Planning and the Environment’ (Dutch: ‘Ministerie van Volkshuisvesting, Ruimtelijke Ordening en Milieu’ or ‘VROM’), who recommended three percent of new project development sites be reserved for children’s play space (Bouwmeester, 2006). The municipality of Ede has accepted this advice in a motion in 2007 – some political parties even opted to make it six percent – and added it as an ambition to their policy (2:13, 9:1, 9:4, 9:9). The practical translation hereof is also made; *“Pavements and similar public space are not included. Greenery, for example, can be included, provided that it is suitable for this purpose and that the description in the zoning plan makes it clear that these areas can be used for play”* (9:9). Furthermore, aside from considering this ‘three percent rule’, building density, presence of large gardens and possibilities for play in areas adjacent to the development site – for example forest, in the case of ENKA – should also be taken into account (9:10). This is a form of acknowledgement of the importance of recognition of children’s space in spatial planning of housing developments.

Next, in the environmental vision, it is stated that the direction Ede is heading is to be(come) a city wherein the focus lies on *“food and sustainability, in a young and green city”* (Gemeente Ede, 2017b, p. 7). Whilst ‘green’ and ‘sustainability’ take up a large share in this document, ‘young’ – however – does not. Children are only vaguely mentioned in the introductory text, wherein is stated that *“Ede is a young city and provides its youth with plenty of development possibilities and a superb environment to grow up in”* (Gemeente Ede, 2017b, p. 4). This notion is also underlined in the municipal youth policy, wherein is recognized that growing up happens everywhere; not just at home, but also in the neighbourhood – among other places (Gemeente Ede, 2019a, p. 5). The municipality states that it wants to contribute to a positive and favourable environment for the youth to grow up in (Gemeente Ede, 2019a, p. 7). Furthermore, the ambition is to have the youth grow up in a safe, healthy and pleasant municipality wherein every child can have a good start (Gemeente Ede, 2019a, pp. 7, 9). The same is contended in the municipal vision on public space wherein is stated that the municipality wants to provide and safeguard an ‘excellent living climate’; *“(…) also for our children and grandchildren”* (Gemeente Ede, 2016a, p. 21). Also, public space is viewed by the municipality of Ede as a possible contributing factor for stimulating sports and activity; among elderly, but also among children, who are *“more and more suffering from obesity”* (Gemeente Ede, 2016a, p. 11).

In the environmental vision, the regional health vision and the youth policy, ‘play’ (in the context of ‘children’s play’) is merely mentioned once; and in all cases does not bear much relevance for this study (Gemeente Ede, 2017b, p. 65; 2019a, p. 8; VGGM, 2016, p. 24).

It is important to mention that the municipality states that children’s rights, as documented in the treaty of the Convention on the Rights of the Child, are viewed as important and are therefore considered in the youth policy (Gemeente Ede, 2019a, p. 6). However, these seem to have been chosen selectively; the articles as stated in chapter 2.1 seem not to have been included herein (Gemeente Ede, 2019a, p. 6).

Next, there were some acknowledgements of the importance of green which were more related to the general public; yet, still relevant for children as well.

Noteworthy, for example, is that the municipality’s slogan is “*Green, healthy and active*” (Dutch: “Groen, gezond en actief”) (Gemeente Ede, 2016a, p. 14). It is claimed that Ede is the ‘outside-city of the Netherlands’, wherein ‘green, health and activity’ are priorities (Gemeente Ede, 2017b, p. 7). Related to this, ‘green’ is stated to be a “*recurring core value*” in all living-related plans, and a “*core ambition*” in general, in the municipal vision on living and environmental vision, respectively (Gemeente Ede, 2016b, p. 7; 2017b, p. 4). Also, creating a healthy, social and sustainable living environment is the aim of the municipality – for which green is identified as a contributing factor in both the vision on public space and the vision on water (Gemeente Ede, 2016a, p. 18; 2016b, pp. 10-11). Furthermore, the vision on public space and environmental vision mention that green is viewed as ‘green capital’ within Ede – the value of green is acknowledged (Gemeente Ede, 2017a, p. 65; 2017b, pp. 41, 42, 45, 47, 48, 77, 85).

Particularly relevant for this study are the ways in which green is incorporated into the vision on living, since this deals with the neighbourhood scale specifically. The vision on living is divided into eight themes, wherein ‘Living in green’ (Dutch: ‘Wonen in het groen’) is a theme in itself. In this theme, several ecosystem services for living are – implicitly – underlined:

*“An important characteristic of living in the municipality of Ede is the presence and proximity of greenery and nature. Greenery and nature have a prominent place in Ede’s living environment. (...) Green living (living on the edge of the Veluwe) is an integral part of the (residential) identity of Ede. (...) A green living environment also means a healthy living environment: green provides peace and quiet and adverse phenomena such as ‘heat stress’ are less likely to occur”* (Gemeente Ede, 2016b, pp. 10-11).

For this theme, it is stated that Ede wants to safeguard or improve green space in the existing living environment, wherein the focus lies on use value, ecological and/or experiential value (Gemeente Ede, 2016b, p. 39). The same holds true for green space in new project development locations – such as ENKA. The document states that “*every new housing development has a green character*” (Gemeente Ede, 2016b, p. 39). Concretely, it is stated that there is strong attention given to the strengthening or at



least safeguarding of green and nature in existing and new housing projects through embedding this aspect in policy and stimulating and helping initiators that intend to anchor green as an important feature in their plans (Gemeente Ede, 2016b, pp. 41, 53). Aside from the municipality itself, associated partners in this ambition are project developers and mental health care organizations; the latter being an interesting and very relevant addition for achieving an integral approach (Gemeente Ede, 2016b, p. 41). This is underlined in the regional vision on health, wherein the focus is put on (adopting) a more integral perspective on health – ‘Positive Health’ – wherein not illness is central, but more so the resilience thereto and ability of people to cope therewith. Aside from the importance of the healthcare domain, there is also emphasis put on the physical environment (among others); the specific example is given of a green living environment, which “*not only contributes to a pleasurable living environment, but also has a positive influence on the mental health of the people who live there*” – this type of prevention is anchored as ‘collective prevention’ (VGGM, 2016, pp. 9, 10). To add to this, it is stated that “*environmental factors contribute for 5% to the burden of disease. Equally as much as obesity*” and that protection against these factors – moreover, provision of positive factors – is largely a responsibility for the (municipal) government (VGGM, 2016, pp. 12, 13). The neighbourhood level is therefore deemed of considerable importance (VGGM, 2016, p. 15). The document does not go into much detail about children specifically, except for in the appendix, where some results from a study on children’s health are summarized and the importance of taking this into account for translation into specific municipal health policy is stressed – this translation does not exist as of yet (VGGM, 2016, p. 24).

Integral decision- and policymaking on green is emphasized a few times in the policy plan for trees in Ede; a translation of this policy plan was therefore made to incorporate into the vision on public space (Gemeente Ede, 2013, pp. 9, 23, 31). In the policy plan for trees, specific mention is made of the importance of integral cooperation with external (private) parties in project or public space development, wherein “*too often*”, trees are not implemented with full potential for sustainability (Gemeente Ede, 2013, p. 23). Also, the environmental vision states that project development should take place more and more in existing urban areas and less in expansion areas – 70 percent of project development will be taking place within the existing urban perimeter, between 2015 and 2030 – to preserve existing green and water as much as possible (Gemeente Ede, 2017b, pp. 48-49). Moreover, plans for building in a green area can only be permitted when there is a “*substantial societal benefit*”; in which case the lost green is compensated for elsewhere (Gemeente Ede, 2017b, p. 48). Still, it is also acknowledged that the economic benefits of trees are difficult to quantify and therefore often overlooked; it is stated that this financial interest in trees should become more widely recognized and taken into account in decision making on public space (Gemeente Ede, 2013, pp. 11, 13).

Aside from this, some noteworthy mentions of ecosystem services are recurring in many of the municipal documents.

For example, in the vision on public space and vision on water there is mention of the realisation and recognition within the municipality that green environments have a provable positive influence on public health (Gemeente Ede, 2016a, pp. 7, 9, 19, 21; 2017a, pp. 27, 65). This is underlined in the environmental vision, wherein it is furthermore acknowledged that sustainability and health are increasingly becoming more important in spatial planning and that the municipality wants to play into this by designing the public space in a way that is ‘inviting to act healthy’, with opportunities for activity, recreation and meeting (Gemeente Ede, 2017b, pp. 41, 42, 47-48).

Climate regulation is also recognized as an important feature of green (in combination with water) in the vision on public space, vision on water and environmental vision – the focus herein is put on increasing liveability of (urban) areas, whereby elderly citizens are specifically mentioned as an important group that reaps the benefits thereof (Gemeente Ede, 2016a, pp. 26, 27; 2017a, p. 27; 2017b, pp. 30, 39, 41, 42, 47, 65, 81, 85). This aspect, along with accessibility and flexibility of green and minimisation of paved surfaces – and thereby creating more space for robust greenery – is taken into account in the design process of any new public space (Gemeente Ede, 2016a, p. 27). Initiatives within the municipality are already underway with regard to the development of a strategy/step-by-step plan to link climate adaptive measures to greening; it is stated that the urgency for more concrete policy objectives with regards to implementation of more green blue solutions in public space planning and design is high (Gemeente Ede, 2017a, p. 27).

In the environmental vision and visions on public space, living and water; green is also viewed as having an experiential aspect for people, increasing attractiveness of the living and working environment and – thereby – increasing recreation (Gemeente Ede, 2016a, p. 27; 2016b, p. 40; 2017a, pp. 15, 27, 65; 2017b, pp. 30, 41, 42, 47, 81, 85).

The positive effect of implementing or safeguarding green on biodiversity and ecology is also recognized in the same four documents – the municipality has got the highest biodiversity of the Netherlands (Gemeente Ede, 2016a, p. 27; 2016b, p. 39; 2017a, pp. 15, 27, 65; 2017b, pp. 41, 49).

### *Participation*

First and foremost it needs to be disclosed that – while this need was acknowledged during the interviews – participation of children (specifically) in decision-making on the subject of public space is not mentioned in any of the documents analysed (2:53). It is only acknowledged in the play policy that “*communication with young people remains a challenge. The interests of this group are not always represented by resident groups*”, and that “*it is desirable to involve this group directly in the decisions to be made*” (9:23). This, however, is aimed more towards older youth than the younger children.

However, whilst not included in policy, the municipal initiative ‘Ede Doet’ was mentioned as an important means through which residents – including children – can actively participate in decision-making on public space (design), through submitting ideas and recruiting support thereof by collecting votes; the idea most voted for wins (2:7, 2:29, 2:53). Still, winning does not automatically equal implementation in this case; seventy percent of local residents in the vicinity of the projected space has to support the plan (2:10). Since playgrounds are mentioned to often be a ‘NIMBY’ (Not In My BackYard) subject – especially in existing neighbourhoods where a new playground is planned to be implemented – this can be difficult to achieve (1:17, 2:10, 7:59).

Other than that, the ambition to incorporate citizen participation into any playground site (re)development – both in the design and realization phase – is viewed as important in the play policy (9:22). Participation is seen as valuable in decision-making on children’s play, since play is a ‘binding element’ in a living environment, “*upon which residents should have more influence*” (9:22). Natural playgrounds, as a concept, are furthermore not acknowledged as of importance for or of interest by residents, as mentioned in an interview and stated in the DIBOR; but if enthusiasm for natural play were to increase in, for example, a citizen’s initiative, the municipality is open to cocreation of a natural playground design together with the participating citizens (2:46).

Aside from these two mentions of participation still specifically related to children’s spaces or interests, (citizen) participation in general is viewed as an important aspect across different policy domains.

The earlier mentioned municipal stimulation of green initiatives and the integral approach whereby, for example, health organizations are incorporated in decision making on public space is a good example (Gemeente Ede, 2016b, p. 41). In new urban development, moreover, nature-inclusive design is seen as fundamental and citizen initiatives that contribute to further greening of the city are encouraged and facilitated by the municipality (Gemeente Ede, 2017b, p. 42).

In the vision on water, furthermore, it is stated that the municipality aims to take a broader approach to the relationship between water and climate adaptation; linking this to other themes such as biodiversity, green, sustainable energy generation and citizen participation is viewed as necessary (Gemeente Ede, 2017a, p. 27). Citizen participation is herein seen as important, because privately owned land can also contribute to climate adaptation and greening of this land can be achieved only when citizens are informed about its benefits and are enthused to take part (Gemeente Ede, 2017a, pp. 29, 38). This is also emphasized in the policy plan for green; while citizen participation is stated to be increasingly more important in decision making on public space, it is also important to engage citizens in promoting and creating sustainable and green private gardens; especially in places where space for green is limited on public ground (Gemeente Ede, 2013, pp. 9, 21, 25, 31, 35). Related to this, the interviewees furthermore

found that there should be more widespread support and recognition of the importance of play and green for children; integrally in policy, but also in society itself. For the latter cause, the interviewees considered the nationally organized ‘Operation Stone-break’ (Dutch: ‘Operatie Steenbreek’), and municipal initiatives ‘Nature Day’ (Dutch: ‘Natuurdag’) and the aforementioned ‘Ede Doet’ to be positive steps towards more appreciation and support for not only green and play, but also citizen – and children’s – participation and cooperation for such a cause (2:7, 2:27, 2:48, 2:53).

Finally, there is also a recurring focus on citizen participation in the vision on public space, which is seen as important for creating quality public spaces. Moreover, citizen initiatives and cooperation between neighbourhood residents to contribute to design or maintenance of public spaces is encouraged and facilitated by the municipality and can lead to an increase of public support, social cohesion and citizen involvement in society – this is underlined in the environmental vision as well (Gemeente Ede, 2016a, pp. 7, 14, 21, 22; 2017b, p. 90).

#### *Important further points made*

It should be noted that an advice for an updated, more integral policy for play for the municipality of Ede has been made and suggested to the board, but this has not been accepted as of yet (2:19, 2:23, 2:51). It is therefore also not analysed in this study. Still, it is noteworthy that play is herein viewed as part of a larger, more integral perspective on what good public spaces can mean for a neighbourhood and it is stated that the whole public space of a neighbourhood should be made child-friendly; there should not just be a focus on the playgrounds (2:4, 2:6, 2:26). The statements made in this advice are all backed by findings from scientific research and studies and discuss current themes, such as: ‘play’ in the broad sense of the word (formal and informal play spaces), children’s participation, and providing child-friendly routes, and, moreover, green has a more prominent role in this advice (2:19, 2:25, 2:55).

The interviewees found that, currently, the municipality is not up to date on the subject of play and/or green and its importance for children; the municipality does not seem to prioritize this subject (2:20, 2:50, 2:51). This is also related to having a tight budget reserved for play (1:20, 2:8, 2:20, 2:31). This is underlined as well by the acknowledgement that while the municipal ambitions are set high in their vision for 2025; there also have to be budget cuts made in, for example, public space maintenance and design (Gemeente Ede, 2016a, p. 14).

Furthermore, municipal accountability and its ‘duty of care’ for residents concerning public space and – therefore – play, is an important factor expressed in the interviews that limits creativity in playground design and planning (1:13, 2:32). The necessity to make playgrounds safe and have them comply with the aforementioned Rules on Attractions adds to this limitation of creativity (2:38, 4:22, 9:11). Moreover, two interviewees opined that this limitation of creativity in design also leads to a limitation in ‘exciting play’ for children (2:39). Combining green with play is especially difficult; using a (fallen)

tree as a play attribute is costly and time-consuming because it needs to be tested and adjusted to comply with the rules, even though this same tree in a forest would not require this (1:14, 2:33, 2:42).

Lastly, one web article stated that Ede had the municipal ambition of ‘greening’ more playgrounds in 2010 (De Groene Stad, 2010). The interviewees, however, did not know about this (2:43). They did mention, however, that the municipality of Ede is now planting ‘tiny forests’ – for biodiversity and climate adaptation purposes – throughout the city and also on school yards; which could then “*become green for play*” and might also create more awareness of its value, which in turn might result in the municipality making ‘greening’ a more integral part of their policies and – especially – its play policy (2:47, 2:48). On the municipal website, a news article on this subject of green schoolyards states that “*A green schoolyard is educational, attractive and adventurous for children. Playing in a natural, green environment is also healthy and soothing for them*” (Gemeente Ede, 2019b). Still, this initiative, while very positive, cannot be found in the policy documents (yet).

## Neighbourhood context (ENKA)

The ENKA development is under direction of the project developer, whereby the municipality takes on a facilitating and checking role (1:2, 1:3). The project developer constructs the neighbourhood entirely, divided up into different phases or sections; after each section, the municipality reviews the development and, when deemed sufficient, takes over the maintenance thereof (1:9, 3:3, 4:10). In a collaboration agreement (Dutch: ‘samenwerkingsovereenkomst’), the requirements and terms and conditions of the development were set up and agreed upon by the municipality and the project developer and it is through this contract that the municipality was – and is – able to influence the development (1:24). Municipal policy was translated and included both in setting up this collaboration agreement at the start of the development, as well as in the implementation plan (Dutch: ‘uitwerkingsplan’) for each section of the development; it was noted that the policy that was in place at the time of agreement thereon was used (1:25, 1:26). A project team was set up with two supervisors; one supervisor on the project developer's behalf and one on behalf of the municipality, who together continually assess the plan and whether it is in accordance with the initial urban plan and collaboration agreement (3:3, 4:12, 4:17, 4:18).

The collaboration agreement of this development was considered confidential and could not be shared; information from this document could therefore not be used in desk research. Instead, the interview findings concerning this agreement were utilized.

### *Distribution*

An interesting feature of the ENKA plan is that the alleyways behind the houses in part of the plan are much wider than traditionally implemented and have been supplemented with a strip of green, which, aside from making the alleys a more pleasant place to be in, provides a safe (away from traffic) and close-to-home opportunity for informal play which is especially interesting for younger children who are not allowed to wander far from their homes (3:11, 4:67). This, however, is not a feature provided to every section of the neighbourhood; also because of its diversity of building styles. Green is mentioned as an inherent part of the ENKA development since it is located adjacent to a natural area; it was attempted to connect the neighbourhood to this area by creating ‘green fingers’ that stretch into the neighbourhood from its boundaries (3:11). However, there is a gradient made in the type of housing: from the greener outside areas abutting the forest towards the centre and north-west area, the style and setting becomes increasingly urban – to both accentuate the surrounding area and the history of the place: nature and industry respectively (3:11, 4:7). The southern and eastern areas of the plan, therefore, are both more green and also have better and more direct access to the forest than do the more north-western, more urban areas. Moreover, natural play (e.g. climbing trees) is also specifically viewed as something that can best be implemented near the forest edge and ‘in the more natural areas’, whereas the northern park area is viewed as a play space for the older children – somewhat implicating

distributive injustice (4:25). On average, still, the neighbourhood is relatively green and it was also stated that it has been attempted to create safe walking routes so that children can safely wander from place to place – also from the more urban towards the more green spaces (3:22).

For children's play, the main criteria to check and comply with were acknowledged to be "*whether there are sufficient playgrounds (...) and whether they are also sufficiently distributed throughout the neighbourhood, but also for the different age categories*" (1:6, 1:18, 4:25). This is in compliance with the policy for play (2:21, 9:11). For the urban plan, these criteria were used to designate the play spaces from the start (3:8). An interviewee compared this development to one that, for example, might happen in the municipality of Utrecht; where a much stricter policy for play distribution is applied, and while this does result in an equal distribution on paper, the playgrounds might all become quite standard and not necessarily in the 'right' place (4:36, 4:37, 4:38). With ENKA – and within the municipality of Ede – there is much more room for creativity when deciding on play space and it is much more integrally interwoven and fitting with the plan (4:38). The different building styles in the plan do impact the type of play provision; it was mentioned that the courtyards, where present, were specified mostly as play spaces for the younger children and that in the more urban area of the plan a larger park space can provide the necessary play space (4:8, 4:9).

Another interesting anecdote about distributive justice was about a small soccer field which had been created and then moved several times during the planning process in order for it to be close to the – at that time – developed and habitable section of the neighbourhood and therefore as easily accessible to the children that were living there. The project developer did this to satisfy the residents (3:26). As the project developed further and further, the soccer field had to be relocated and is now at its final destination, where it will remain. The interviewee noted that every time the field was relocated, many residents (parents of children that used the field) found it a pity, yet from the start it had been (made) clear in the plan that the field would be placed in the northern park area of the neighbourhood (3:26).

### *Recognition*

On the subject of recognition, first of all, it was acknowledged that an explicit link between (the health of) children and (playing in) nature was not made for the ENKA project (1:30, 1:36). However, implicitly, there are quite a few measures taken and implemented in the plan that are related in this respect.

It needs pointing out, first and foremost, that the overall setup of ENKA – also in comparison to Waterfront – is relatively green; especially considering the area's prior function as an industrial site (1:28, 1:30, 3:13, 3:20, 3:18, 4:7, 4:30, 4:44, 4:46).

Specifically interesting for children, an important feature that was created in parts of the plan, as could be read earlier in the section on distribution, are the wide alleyways that were supplemented with a strip of green which was mostly implemented because it would make the – otherwise narrow and cramped – space more enjoyable to frequent, but also provides an opportunity for children to play in a safe public green environment close to home (3:11, 4:67).

The forest that adjoins the ENKA terrain on the eastern and southern edges is furthermore specifically recognized as a space where play can – ‘will’ and ‘should’ – take place (1:11, 3:22, 4:32, 4:34). Aside from that, ‘natural play’ was mentioned to be provided by implementing climbing trees, creating a ‘Veluwe-look’ (bearing similarity to the adjacent natural area, the Veluwe) and utilizing (natural) height differences to form an adventurous play space (4:25, 4:30). However, it was mentioned that developing such play spaces and designating them as ‘formal’ play spaces is a more difficult task, because of the regulations and safety restrictions for play facilities – which were also pointed out earlier (1:12, 1:14, 1:15, 4:31). Moreover, it was mentioned that designing play spaces with ‘playable’ green is difficult in a neighbourhood development project where most of the existing structures and greenery had to be removed in order for the soil to be sanitized; most green, in this respect, had to be planted anew and might therefore be frail and prone to damage (2:45). For ENKA, however, some pre-existing greenery could be preserved and larger trees were also planted in some cases (1:11, 3:22, 4:4, 4:16, 4:32, 4:34, 4:42, 4:43).

Furthermore, in ENKA a large portion of the terrain was used for providing the homes with (large) private gardens; as a quality improving measure – instead of leaving more room for public space (3:33). An interviewee noted that, to facilitate better children’s play or children’s contact with green, there thus also lies a task for residents to design their gardens in a green way, not only for a child’s benefit, but also for other sustainability reasons (3:33). To the interviewee’s slight dismay, however, this was still often not the case; there is regularly chosen for stony, hard surfaces (3:33).

Noteworthy is that from the interviews it became quite clear that children’s play in this development is (still) viewed from quite a traditional perspective, in the sense that play seems to largely be associated with providing play-equipment, rather than play environments in a broader sense (1:8, 3:8). The costs, maintenance and compliance with rules and regulations, as pointed out earlier, seem to be leading motivations for this type of playground provisioning (1:8, 3:8, 3:25, 4:31). Withal, these same motives were also mentioned as creativity-reducing factors for those who would like to provide different types of play spaces (2:38, 4:22, 4:31).

The ‘three percent rule’, which was in the play policy as well as in interviews stated to – in 2007 – be adopted as an ambition to utilize in every new housing development in Ede, was not specifically applied in ENKA, to the knowledge of the interviewees (2:13, 3:32, 9:4, 9:9, 9:25). An interviewee did mention



that this tool – while important, because “*If you do not mention it, (...) there is a chance that it will be forgotten*” – might be tough to apply, because it is difficult to determine what constitutes play space and what does not – even though this is slightly elaborated upon in the policy for play – but that in ENKA this three percent figure is (probably) realized (3:32, 9:9).

On the more general subject of child-friendliness, what is noteworthy – while not specifically implemented for children alone – is that a lot of continuous paths have been created which are mostly separated from the main mobility structure and through which most places in the neighbourhood can be reached relatively safely (3:12). This measure for child-friendliness is an aspect of the plan that was claimed to be an initiative of the project developer (3:13).

More generally on the subject of green, as stated earlier, ENKA is a relatively green neighbourhood development wherein ‘green’ and the connection with the Veluwe are also – from the onset – marked as key qualities of the neighbourhood; green in this case has a high selling value (1:28, 3:13, 3:14). It was acknowledged that, since Ede is allegedly ‘the greenest municipality of the Netherlands’<sup>4</sup>, this insight – along with the fact that the terrain is located adjacent to the Veluwe – played a role in the decision to develop a green neighbourhood as well (3:14, 3:18). While green, for this case, is a key element of the development, it was stated that it differs per case and what is desired; “*(...) You want to capture the essence (...) of each project (...): 'What is the added value of this neighbourhood?' And in one case you want to have a lot of parking solutions, because otherwise it will be completely congested, and in another case it will be a lot of greenery, and in another case it will be (...) water, because that is always pleasant (...) if you live by the water, because then (...) you have space and (...) you also have cooling, and it is very atmospheric. So that can also be an element.*” – the latter being relevant for the Waterfront development (3:15).

Furthermore, it was noted that the building density and type of housing has got a significant influence on the public space. For example, even though a multi-storey apartment building is land use effective in that it can house many people on a given size of land, it still requires a great amount of parking space to facilitate its residents – which puts more pressure on public space and green (3:16, 4:20). Moreover, high-rise buildings should be supplemented with a larger public space and of good quality, since residents do not have their own private gardens and therefore – should be able to – rely on public space for their leisure activities (3:16). In ENKA – as well as in Waterfront – there are not many higher buildings and the general focus has been placed here on providing housing with private gardens, but in the more urban section of the plan this public space is, for the abovementioned reason, made explicitly

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<sup>4</sup> This is not true; still Ede is quite green and has in fact won second place in this respect in 2010. (de Gelderlander, 2010)

of a great quality by, for example, planting bigger trees and making the (relatively small) space multi-functional in use: space for children of different ages as well as spaces with benches for adults (3:31).

Specific knowledge or use of ‘ecosystem services’ as a tool was not present in the development (1:30, 3:19). Still, it was recognized as an important aspect to consider; especially for biodiversity: “(...) *If you are doing well on an ecological level in a neighbourhood, then of course that has an effect on the residents there as well; just as for the flora and fauna it is of course healthier for the people living there than if you do not pay attention to it, but whether that is a side effect or a conscious goal, I do not know...*” (1:30). Another interviewee added that the aim was that the development had as little detrimental impact on the present nature and that: “(...) *Therein we have looked at the animals that wander around here (...) But that is more about preservation of the original nature that was here. So that is not really something you make use of as residents. For the residents it concerns, indeed, more (...) the trees, the greenery and the playing facilities in the greenery.*” (3:20). Furthermore, implementing more green was seen as a method for making the neighbourhood (more) futureproof (3:29).

Still, it was acknowledged that for a project developer “(...) *The value is in buildings, not in public space. So the more houses you can build, the better it is, in theory*” (3:24). In practise, it was recognized that there is a limit to this and that densification “*can make the overall quality of the plan deteriorate and therefore also decrease the value of the houses*” (3:24). Moreover, in another interview it was stated that public space of a good quality can have a positive (increasing) effect on housing prices (4:6). In this regard, however, there is also a limit to green implementation; just like the (former) criticism on a flowery grass mixture – which will be discussed later – it was also stated that “*It is just like with very large trees: (...) very nice in the neighbourhood, but not at your front door. Especially if you live in an apartment with a balcony; (...) you do not want to have a big tree in front of your house. You also want to maintain a nice view.*” (3:28, 4:40). In this regard, the gradient from a more green towards a more urban design – moving inwards from the edges of the plan – makes for a diverse provision of living environments and styles so that there is something for everyone; not everyone is so keen on a green living environment (3:24).

### *Participation*

Children’s participation, specifically, is not employed in the planning process of ENKA (1:37). However, there were a few noteworthy and relevant cases of participation related to children’s interests and green.

Residents of ENKA are invited to participate in the decision making on playground design per developed subarea, which happens through either an organized participatory evening in a location on the ENKA terrain whereby the project developer and landscape architect inform and cooperate with the participants or a survey via e-mail, wherein residents can mark their preferences – it depends on the scale of the

subsection developed and, therefore, the amount of residents it may consider (1:7, 3:8, 3:29). It was mentioned that three different playground designs are made for different age groups and that participants can indicate their preference on a form (3:25, 4:26). Furthermore, it was stated that participation in playground design is both desirable and achievable; the former, because residents should really (be able to) make this place feel like it is ‘their own’ and ‘their children’s’, and the latter, because playgrounds are one of the final aspects of a plan that have to be implemented (4:21). In the participatory events, it was mentioned that the parents are encouraged to bring their children along and that ‘thankfully’ this phenomenon is increasing, but that it is still mostly the adults that participate; which could also be appointed to the time at which these participatory events are held: in the evening (1:37, 3:29, 4:27). This, however, was mentioned to be difficult to arrange otherwise, because of most residents’ busy schedule (4:27).

While not mandatory, it was acknowledged that participation does play an increasingly significant role in project development; especially for decision-making on a subject like playgrounds – which can be a ‘NIMBY’ subject, as mentioned earlier; this does mean that people are often eager to participate therein (1:16, 1:17, 3:21, 7:58).

Moreover, there were a few anecdotal examples of other cases of NIMBY in this development, specifically related to green. It was stated, for example, that a natural(ly maintained) flowery grass mixture on the roadsides was viewed by some residents as a precarious feature, because of the messy look, and also because they experienced a nuisance of aphids – which was caused by the flowery mixture – near their homes (1:32, 4:40). Moreover, the height of the flowers had an obstructing effect on the visibility and overview of the traffic situation, which was also stated to be especially dangerous for smaller children (1:33). For this reason, the residents complained to the project developer and municipality which resulted in a more intensive mowing policy (1:32). It was mentioned, however, that some residents – elsewhere in the neighbourhood – did not agree with this decision to employ more intensive mowing and literally “*jumped the landscaper to stop him from mowing*” in front of their houses, because they liked the flowery mixture (1:34). The interviewee stated that occasionally things need time to be accepted and that the municipality does sometimes persist – for the good of all: “*It was a little difficult to get people to accept it, because it takes some time to grow as it should be, but eventually it is starting to land a little now. So there has been some resistance. And people do not want it to be a burden. But it is getting more and more appreciated now*” (1:34). A similar position was taken in by the developer and landscape architect, who – in one of the scarce areas of the terrain that did not have to be sanitized and where, therefore, trees could remain in place – decided to mark and distribute the plots of land in such a way that the desirable trees would be situated on public ground and therefore safeguarded and unable, or at least more difficult, to get cut down. In this case, therefore, the project developer took in a pro-green position in order to ensure the quality of the plan (4:42).

Somewhat contrarily, in another part of the plan, there was a discussion between the project developer and some residents of ENKA concerning the scheduled felling of two – monumental – oak trees in order to make room for more housing, which was also planned (Wijnacker, 2019). The residents that already lived there wanted the trees to stay, but eventually the trees were cut down; which is something that those residents were unhappy about (3:10). An interviewee expressed that the felling was completely conform to the planning and, moreover, that the residents seemingly did not take into account the fact that – probably – trees had needed to get cut down to make room for their own houses as well (3:10). The residents then asked for the trees to get compensated elsewhere, which the project developer was supportive of, however, it was expressed that “... *When you look at the neighbourhood. I would say that (...) it is already super green. (...) It also needs to stay in balance. So that is just tricky. Everything is already planned*” (3:10). This case of ‘citizen participation’ resulted in the fact that the development of the houses had to be postponed with half a year, to the dissatisfaction of both the developer and the future residents (3:10). It was acknowledged that this ‘care for nature’ by residents in developments is increasingly becoming more important – whereas, during the economic crisis, everyone was glad if construction could take place at all – and that, where possible and desirable, the project developer does want to facilitate herein (3:21). Concerning the fact that most of the development has now finished and the neighbourhood is largely habitable, an interviewee made the fitting remark that: “*Actually, now you are not constructing a new neighbourhood anymore; now you are building inside a new neighbourhood, where people live and have their interests.*” (3:21).

#### *Important further points made*

Currently, when a development is planned, there is one advisor from the policy domain ‘(maintenance of) public space’ who is the integral pivot in the negotiations and checks of a plan (2:16). Two interviewees from the municipality mentioned, however, that they would also like to be able to cooperate and influence such a development before it gets accepted; in order to create a more broadly supported plan for the public space, and therefore also for play space. They would like to see this prospect anchored in an updated policy (2:15).

## 4.2 Harderwijk / Waterfront

### Municipal policy

#### *Distribution*

First and foremost on the topic of distribution, it is stated in the policy for play that just distribution of adventurous playgrounds – an important feature in the policy for play of Harderwijk, which will be elaborated upon in the section on recognition – should be taken into account; *“it is important that the adventurous playgrounds are in the children's immediate living environment and not on the edges of the built environment”* (10:18). Public green spaces can then be appointed a ‘recreational’ label in zoning plans (10:18). An important note is that existing green spaces are preferred for transforming into playable green, since the existing green is older and more robust than newly planted green (10:19). This is especially significant in relation to Waterfront, which will be discussed further in this document.

In terms of accessibility of play environments in general, attention in the play policy is paid to age groups, action radius, neighbourhood- or district level, physical barriers and the number of play areas per neighbourhood or district (10:8). Also, child-safety of the living environment is considered from a social perspective; having play spaces that can be overseen by adjacent dwellings (Gemeente Harderwijk, 2012, p. 32).

An important mention is about the difference between a densely and more broadly constructed neighbourhood and its implications on the type and distribution of play environments; the argumentation is that in the more broadly built neighbourhoods there is more informal playable space (e.g. private gardens and public green) and therefore less need for formal playgrounds, whereas these are more important to provide in densely built neighbourhoods since there is less informal public space (10:9).

Concerning distribution of green in general, what could be of interest for children is the following statement made in the structural plan for green: *“It is very important to develop sufficient, safe and attractive routes; between urban and rural areas as well as within neighbourhoods and landscape types themselves. Improving the accessibility of green space is therefore an important task”* (Gemeente Harderwijk, 2007, p. 25). Moreover, the vision on living document states that *“We want to apply [this] principle of integrating green and water into the living environment more broadly. Not only in expansion locations but also in the existing urban area”* (Gemeente Harderwijk, 2017, p. 34). Children are not mentioned specifically in these contexts of green, but there is recognition of its benefits for everyone.

As for the urban environment, the most important feature of green that is noted in the structural plan for green is that it is “*of high quality and it contributes to the historical character of the city*” – for instance by using typically Dutch tree species such as *Tilia*, *Ulmus* or *Castanea* (Gemeente Harderwijk, 2007, p. 42). Other than this, the ‘stony’ character is stated to be inherent to the historical nature of the trading town of Harderwijk, and should therefore be preserved; too much green “*would only distort this picture*” (Gemeente Harderwijk, 2007, p. 42). This also strongly relates to the Waterfront development; since this neighbourhood is designed and built in an urban style, fitting with the adjacent historical centre of Harderwijk, the same principles mentioned – on the subject of green – are applied here (4:45, 4:48). More on this aspect is expounded further in the text.

The vision on living furthermore states that the municipality of Harderwijk aims to provide any home-buyer with a place that suits their wishes (Gemeente Harderwijk, 2017, pp. 11, 51). Also, a ‘healthy living environment’ is mentioned a few times as something that the municipality wants to provide for everyone; “*... regardless of income, background or age*” (Gemeente Harderwijk, 2017, pp. 11, 55). It is stated that “*... We strive for a varied range of living environments. From the foresty Hierden to the historic city centre and from the modern Waterfront to the child-friendly Drielanden*” (Gemeente Harderwijk, 2017, p. 51). Interesting herein is the fact that one neighbourhood – Drielanden – is specifically characterized as ‘child-friendly’, whereas the other places or neighbourhoods, such as Waterfront, are appointed a different trait, which is in line with the municipality’s aspiration to give every neighbourhood a clear, distinctive character – ‘water’ (and ‘urban’) is the fitting character for Waterfront (Gemeente Harderwijk, 2017, p. 36). For Waterfront, it is stated that “*The water theme has been consistently integrated into the urban plan. In the architecture of the houses, in the design of the public space and the (water sports) facilities*” (Gemeente Harderwijk, 2017, p. 36). More on this subject and its implications follows in the section on Waterfront specifically.

### *Recognition*

An important point made in the play policy is the acknowledgment that opportunities for ‘creative play’ (informal play spaces) are decreasing, due to the car taking up more room in the public space, increasing urbanization and densification, but also that the interest in (creative) play is declining because of (technological) changes in society (10:12, 10:13). The municipality wants to counter this by creating more ‘adventurous play spaces’ and also make the living environment in general – without formal play equipment – more challenging and playable (10:7). Concerning this, the play policy document states:

*“The kind of outdoor space where children can express their creativity is disappearing. An environment must meet a number of conditions in order to stimulate creative play. It preferably takes place in indeterminate areas. The traffic environment is safe, the soil is unpaved, there are countless colours, smells, inflorescences and fruits in the greenery. We see very little of these spaces. Due to increasing*

*urbanisation and compaction, 'adventure plains' and vacant land are increasingly being used for housing" (10:13).*

Because these informal play spaces are recognized as important for creative play, the municipality states that, for this reason, *"the municipality of Harderwijk is committed to the construction of adventure playgrounds" (10:14).*

It is further on in the document elaborated what this would implicate in practise; also for spatial planning. It is stated that in existing neighbourhoods, space for new adventurous playgrounds should be found in existing public green space – parks or other green areas where existing trees and undergrowth can serve as a good basis for creating adventurous playgrounds – or else, on the location of a formal playground that is, by policy, destined to be removed and can therefore be transformed into an adventurous playground, wherein also no further play equipment is generally necessary since the greenery itself facilitates playability (10:18, 10:20). In newly built neighbourhoods – such as Waterfront – space needs to be secured and reserved for these playgrounds from the onset of and throughout the spatial planning process (10:18).

Aside from the developmental benefits (unstructured) play can have for a child, the – additional – educational value of playing in nature is underlined in the policy document as well:

*"Children are given the opportunity to come into contact with nature. They get to experience the seasons. In spring the trees and shrubs get leaves and start blossoming. In autumn, a number of tree species, such as nuts and acorns, get fruit and the leaves fall off again after they have changed colour (...). In addition, they get to know different types of wood and plants. They see evergreen and deciduous plants. They also get to know the fauna (butterflies, beetles, caterpillars, etc.). Playing in nature is good for the development and health of children" (10:21).*

This is a very deliberate mention of ecosystem services for children.

Concluding the play policy document, three different scenarios have been designed for the future implementation of play facilities: *one-on-one replacement, proportional distribution and proportional distribution with integrated and adventurous play* – the latter scenario, of course, being most advantageous in light of this study (10:27). In this scenario, distribution is also taken into account: the areas with currently too few play facilities would first be provided for with adventurous play environments; with other neighbourhoods following after (10:28). Whilst this scenario is calculated to be the most costly scenario of the three, it is chosen as the preferred scenario and *"will be implemented"* (10:29, 10:30). It is stated:

*"If this scenario is applied, the entire play area will be arranged in such a way that it meets all the wishes and requirements for an optimal design. In this scenario, the inclusion of children with limited opportunities in society is taken into account. In addition, creative play is promoted by creating*

*adventure playgrounds. Finally, the number of playgrounds expands, so that every child can safely access a play area” (10:30).*

It is also stated that maintenance of an adventurous playground can be minimal; it is key to let the natural processes take care of the place (10:23). However, (safety) inspections of such a playground might be more intensive than for traditional playgrounds and, moreover, it is noted that these natural playgrounds are difficult to comply with rules and regulations, which does generally make it more difficult and more expensive to realize adventurous playgrounds than it is for traditional playgrounds (2:32, 7:54, 10:23).

Concerning child-safety, the focus in the play policy is put mainly on implementing play equipment that complies with the Rules on Attractions and use of materials and maintenance, but there is also brief mention of green; *“if green is implemented near or within a playground, use plants and/or trees that do not bear poisonous fruit or thorns” (10:11).*

Noteworthy, however, is that while green seems to take up a prominent and recurring position in the play policy document, this is discordant with the statements made about this policy – and play in Harderwijk in general – during the interviews. Herein was stated that *“green is not considered in the play policy”* and would only be included in a playground design, not through policy, but through ‘enthusiastic colleagues’ (7:30, 7:32). It is further mentioned that this policy document is only relevant or used *“in theory, but not so much in practise”* and there was joked that it is *“sometimes better not to know what is written in the policy”*, which seems strange, since the document – after analysing it – seems quite comprehensive (7:31, 7:33). One interviewee stated: *“You are here to create a pleasant environment and you are not here to implement rules in a policy word for word; certainly not a policy plan that is already twenty years old” (7:32).* Whilst the intention seems positive – creating a liveable public space – the neglecting of policy therein seems odd.

While the play policy is very extensive in recognizing the importance of green for children, other policies do not seem to note this relation much, except for a few. For example, in the municipality’s structural plan for green, among other functions of green mentioned is the recreational function; whereby its use for children’s play is specifically mentioned as well (Gemeente Harderwijk, 2007, p. 6). Aside from that, there are only a few mentions of play in this plan; all of which miss the point of incorporating green with play (Gemeente Harderwijk, 2007, pp. 45, 71, 83). In the structural vision, it is also acknowledged that green has a recreational value; on neighbourhood level, it is stated, green accommodates – among other functions – children’s play space (Gemeente Harderwijk, 2012, p. 31).

Green in combination with water, it is further stated, needs to be safe for children; faintly sloping natural banks alongside water bodies are presented as a measure to achieve this (Gemeente Harderwijk, 2012, pp. 31, 38). Similarly, in the policy for play, (deep) water in the vicinity of play spaces is said to be dangerous for children, and should therefore be limitedly implemented or otherwise easily recognizable by making safe fencing or soft, faintly sloping banks towards the water (10:12). This also concurs with



the municipal vision on water wherein is stated that creation of natural banks along water bodies is positive for ecological reasons as well as child-safety – since the slope of the bank is gradual instead of abrupt (Gemeente Harderwijk, 2013, p. 11). In the vision on water, somewhat conflicting, it is pointed out that ecological value and child-safety often clash, since greenery adjacent to water may abate visibility of a waterbody and is therefore sometimes preferred to be removed or mowed down (Gemeente Harderwijk, 2013, p. 48). This example highlights conflicting interests that can accompany nature provision for children. Child-safety of water bodies is furthermore mentioned as an important topic in any project development, but ultimately, the municipality deems parents for the most part responsible for risk of drowning (Gemeente Harderwijk, 2013, p. 11). This focus on child-safety of water bodies is a recurring theme in the document, so recognition of not only its importance for the municipality, but also the importance of water elements – whether in combination with green or not – for children is acknowledged (Gemeente Harderwijk, 2013, pp. 10, 11, 48, 51, 62-64). This is especially important for the case study, since the Waterfront neighbourhood employs water as a key element. This will be discussed further in the text.

Lastly, somewhat related is the statement made in the vision on water that enhanced experiential value of water can be achieved by increasing accessibility and use-value of water and adjacent green; whereby ecologically friendly design and maintenance, combined with implementation of benches, educational facilities (for example: a groundwatermeasure) and ‘waterplaygrounds’ are mentioned as possibilities to achieve this (Gemeente Harderwijk, 2013, pp. 48, 62). These waterplaygrounds are mentioned a few times, and are the sole recognition of children’s play – in relation to water and green – in this document. Along with these mentions, the safety thereof is an important topic; water quality monitoring and drowning risk are important to consider when implementing these facilities (Gemeente Harderwijk, 2013, p. 48).

Less specifically related to green; in the play policy document there is recognition of the importance of “*investing in youth to create a better society*”, and play is also stated to be connected – integrally – to (preventive) youth policy (10:1). Integral policymaking within the municipality is emphasized a few times; whereby the benefit thereof for spatial planning is also stressed (10:1, 10:7). The play policy is stated to have been “*(...) drawn up by and for all departments of the municipality of Harderwijk, giving it broad support*”, which means that integral cooperation within the municipal organization is viewed as important (10:1, 10:24). A step-by-step plan for a planned implementation or (re)design of a playground in the municipality of Harderwijk is then presented, wherein integral participation of different policy domains (through setting up a working group) is illustrated clearly. The requirements of play environments, as set up in this play policy, are then formulated and the ideas from all members of the working group are assessed so as to make an integral plan for a playground (10:25).

Whilst this ambition to make integral policy is emphasized, the municipality's youth policy makes no mention about the physical environment wherein children grow up, even though significant focus is put on prevention (Samenwerking Noord-Veluwe, 2018). This, while the mission that the collective parties have described for themselves is the following:

*“To stimulate a child- and family-friendly upbringing and environment for growing up, in which all children and young people (from -9 months up to 23 years of age) are given the opportunity to develop optimally and in good health”* (Samenwerking Noord-Veluwe, 2018, p. 4).

The ‘environment’ of focus in this view is not the physical environment, but more the family situation. When there is spoken of the ‘neighbourhood environment’, the document implies the social network of the neighbourhood; the physical environment is neglected.

Still, the importance of the physical environment – also for children – is emphasized in other policies. For instance, the health policy is divided into three themes: *growing up healthy*, *growing older healthy* and *healthy living environment* – two of which are specifically relevant for this study (Samenwerking Noord-Veluwe, 2017, p. 7). It is acknowledged that *“the basis for a good mental and physical health is laid in the beginning of life”* and for this reason the (municipal) government invests in the healthy growing up of children, wherein – aside from direct youth support, campaigns and laws – design of the public space is recognized as an important (indirect) aspect that contributes thereto; specific mention of play space is made (Samenwerking Noord-Veluwe, 2017, pp. 11, 15, 20). Coinciding, the same is stated in the structural vision (Gemeente Harderwijk, 2012, pp. 34, 35, 37). The municipality's vision on living somewhat concurs this: a separate section is dedicated to ‘sports- and play facilities on neighbourhood-level’, wherein is stated that the municipality of Harderwijk wants to stimulate children and adults *“to play, move and engage in sports”*, which is provided for by reserving space for and implementing *“sufficient playgrounds, multifunctional sports fields and outdoor fitness”* (Gemeente Harderwijk, 2017, p. 55). This is also congruent with the structural vision (Gemeente Harderwijk, 2012, p. 39).

Furthermore, the structural vision states that it wants to efficiently make use of public space by – for every spatial development – examining how a space can be multi-functional in usability, wherein *“room for activity, sports and play is ensured”* (Gemeente Harderwijk, 2012, p. 32). Specific mention of green space in combination with children or play is not made in any of these documents, however. Still, combining water and green is also viewed as an efficient use of space and important for climate adaptation and attractiveness of the living environment; in spatial planning and decision-making, space should be reserved for these blue-green combinations (Gemeente Harderwijk, 2013, pp. 18, 28-29, 34, 35, 37, 42). A *“robust structure, wherein space is available for large (shadow providing) trees”* is stated as important to effectively make this work (Gemeente Harderwijk, 2013, pp. 42-43). Furthermore, in order to achieve these envisioned multi-functional spaces of water and green, an integral maintenance

plan is necessary (Gemeente Harderwijk, 2013, p. 42). This need – and the current sectoral approach towards maintenance in the municipality – was also noted during an interview (7:35, 7:40).

Further, a section on safety of living environments is integrated into the vision on living, wherein especially the safe manoeuvring of motorized vehicles in relation to other users of streetscapes and public spaces is underlined – children, however, are not mentioned herein specifically (Gemeente Harderwijk, 2017, p. 54).

On the subject of green in general, the structural plan for green notes several ecosystem services: green is recognized as having a structural (guiding) function, an aesthetic function, a natural function and a recreational function (Gemeente Harderwijk, 2007, p. 6). Moreover, added to this list is the increasing awareness of the positive influence a green living environment can have on the “*psychological and physical well-being of people*”, as well as the acknowledgement that “*a valuable green structure contributes to a pleasant working environment*” (Gemeente Harderwijk, 2007, pp. 25, 58). Furthermore, a healthy living environment is – ‘for the first time’ – explicitly taken into account in the (integral) policy on health, wherein is recognized that the physical living environment has a significant influence on our behaviour and health and should therefore be designed contributory thereto; “*sufficient provision of green, nature and water*” is deemed of importance (Samenwerking Noord-Veluwe, 2017, pp. 19, 20, 27-28). This is concurred in the municipality’s vision on living wherein green is mentioned in the context of ‘greening the living environment’, which contributes to climate mitigation, promoting the city’s image of being sustainable and increasing attractiveness (of living environments), but it is also acknowledged that a green living environment “*contributes to a healthy living climate and (...) inspires residents to be more active*” (Gemeente Harderwijk, 2017, pp. 11, 34, 35). The health benefits of green, therefore, are known and recognized herein, but – here – not necessarily in relation to children; of whom there is no further mention.

In the structural vision, the importance of public green is furthermore stressed by its value for recreation, structure providing, attractiveness (of living environments) and climate adaptation (Gemeente Harderwijk, 2012, pp. 23-24, 30-31, 39, 40). It is also acknowledged, however, that the percentage of urban green in Harderwijk is below the national average – which is ‘compensated’ for by the nature areas surrounding the built environment – and that residents have expressed their desire for more green areas, such as city parks (Gemeente Harderwijk, 2012, pp. 18, 70).

Also, as in Ede, green in Harderwijk is viewed as ‘capital’, which should have a high priority. The structural plan for green notes that taking care of, for example, (existing) trees in the municipality of Harderwijk is important, wherein providing the trees with enough space and – moreover – enough time to grow is emphasized (Gemeente Harderwijk, 2007, p. 33). Interesting for this study is the acknowledgement that while most spatial developments – urban, infrastructural, etcetera – take quite

some time to be completed, trees take an especially long time to healthily grow and mature. It is stressed that this fact, along with appropriate choice of species and situational characteristics of a place, should not be overlooked in spatial developments (Gemeente Harderwijk, 2007, p. 33). This can also have its implications on combining green with play; which is discussed further in the section on Waterfront.

Lastly, in the structural plan for green, the necessity of green – in urban space – is not only looked at from a human perspective, but also ecologically. It is stated that even though “*the function of urban green space is not primarily nature; (...) its ecological value can be (locally) enlarged by connecting more closely to natural biotopes*” (Gemeente Harderwijk, 2007, p. 17).

### *Participation*

Participation of both adult and younger residents – when deciding on and planning for play – is stated to be ‘prioritized’ within the municipality (10:7). Further in the play policy document, there is mention of different ways of including children and their wishes in a participative way by, for example, visiting playgrounds and asking children what they feel are positive and negative aspects of that playground; which – during interviews – was also acknowledged to take place in the municipality when a playground is scheduled for redevelopment or replacement (6:17, 7:56, 10:24, 10:31). Furthermore, noteworthy from the structural vision is that the municipality aims, by making use of ‘new interactive ways’, to include civilians – especially youth – more in policymaking and other forms of participation (Gemeente Harderwijk, 2012, p. 37).

Another mention of (children’s) participation – during the interviews – was the municipal initiative ‘Together we colour the City’ (Dutch: ‘Samen kleuren we de Stad’), which was set up to enthuse residents of Harderwijk to participate in the design and care for the public space (Gemeente Harderwijk, 2019). It furthermore, employs the ‘City-Idea’ (Dutch: ‘Stadsidee’) wherein residents – of all ages – can come up with ideas to improve the public space and, by means of voting, a proposed project is chosen to be realized – very similar to Ede’s ‘Ede Doet’ initiative (6:17).

In the living vision, concerning play facilities, it is stated that the planning thereof “*is reported in the play policy*” and aside from that “*residents can, in consultation with the neighbourhood manager, submit plans that can be realised via the neighbourhood budget or subsidies*”, which seems to promote participation – though not specifically of children (Gemeente Harderwijk, 2017, p. 55).

The municipality’s structural plan for green was set up in collaboration with inhabitants, administrators, officials and relevant organizations, so a participative approach was employed (Gemeente Harderwijk, 2007, p. 6). Who exactly participated herein is not specified, so it is unclear whether children or

adolescents took part; judging by the document's lack of mention of children, however, this group was presumably not included.

Lastly, an important measure proposed in the water vision document is to cooperate with inhabitants in projects combining water and play. Citizen participation in these types of projects is viewed as a tool to create more involvement and interest for water and the living environment in general (Gemeente Harderwijk, 2013, p. 64). Children's participation therein is not mentioned specifically.

### *Important further points made*

On the subject of integral policy, it is acknowledged in the vision on living that public space – and design and planning thereof – is becoming increasingly more important for tackling or dealing with many societal challenges, for example, climate adaptation, health promotion, living climate and mobility, which results in the public space being of interest for many different policy domains; making prioritization and coordination of these interests more and more difficult (Gemeente Harderwijk, 2017, p. 54). For this reason, public space is anchored in 'Street of the Future' (Dutch: 'Straat van de Toekomst'), which is an integral (policy) document for public space in Harderwijk that is currently – at the time of writing – still in the pipeline (7:35, 7:38). Children's play is also included herein, and furthermore, it is stated to contain: "*a handbook on green space, a traffic and transport plan, an environmental policy plan, a sewerage plan, a living vision and a handbook on the management of public space*"; essentially an integral and updated document on public space that would have been interesting and relevant to analyse, yet – unfortunately – was not finished or implemented at the time of writing this thesis (Gemeente Harderwijk, 2017, p. 54).

Noteworthy also is that sustainability in general is a theme that is currently considered a very 'hot political item' and municipalities are keen to convey and promote this in projects (4:54, 7:45, 8:29). It was argued that "*now is the time for this*" and that an integral, broad view of the concept of sustainability is employed in the municipality and the municipal organization, which incorporates all aspects of sustainability for civilization (7:45). Furthermore, it was stated that sometimes the right zeitgeist is necessary to introduce and anchor these types of concepts into society, which might not have been possible to accomplish some years ago (7:45). An anecdotal example was given of a councilmember who suggested to mow the naturally designed and maintained roadside embankments back to a lawn "*because he was afraid of ticks*"; for which he was then – allegedly – "*ridiculed by his colleagues and on Twitter*" (7:46).

## Neighbourhood context (Waterfront)

Similar to ENKA, the development of Waterfront phase two is led by the project developer under supervision of the municipality. In the collaboration agreement (Dutch: ‘samenwerkingsovereenkomst’) between the project developers and the municipality, the municipality captured its terms and conditions for the Waterfront phase two development; in order for the project developer to be able to execute the development on the prerequisites of the municipality. In this ‘Program of Requirements’ (Dutch: ‘Programma van Eisen’ or ‘PvE’) – also referred to as the ‘bid book’ – the masterplan, created by the municipality in collaboration with some market participants, is laid out and the different aspects of the plan are discussed; among which are public space, green and children’s play (5:8, 8:13, 8:32). The functional descriptions of both subjects are presented therein, which are derived from policy that was – at that time – applicable in the municipality (7:18). The municipality can, through this translation of policy, influence the project and how it is developed from the start of and throughout the process; it is a background document which every actor can fall back on. It could even be stated that the municipality carries responsibility for any action that takes place, since every action should be in agreement with this Program of Requirements (8:19). It is therefore important that this document considers each aspect in a clear and comprehensive manner. The crunch, however, is that these functional descriptions are – and needed to be – concise and abstract which results in statements that are open to interpretation (7:18).

The bid book of this development was obtainable and information from this document could therefore be analysed and used in this research; whereby the interview findings concerning this agreement were used for verification and substantiation.

### *Distribution*

In an interview, it was recognized that the connection of nature with children was not specifically made in the Waterfront development and that herein “(...) *we focused our gaze more towards the water*”, which is – aside from the city’s adjacency to the Veluwe – another important characteristic of Harderwijk (5:14, 5:15). It was stated that, for this reason, “*green and outside play, in combination, have admittedly not been of great importance for the plan*” (5:17). What is more, an interviewee acknowledged that implementing playable green spaces into a newly built neighbourhood is always difficult, whereby, in the case of Waterfront, this topic is especially complicated because such a green space is not deemed fitting with the image and concept of the Waterfront development (7:51). It was stated: “*Of course, playing in the woods; I like that [idea] too, and I think that is fitting with a neighbourhood like Harderweide, on the outskirts of town, but I would not really find that fitting in Waterfront. But that is my feeling a little bit, that such a dense bush in the middle of.. You want to create a somewhat different atmosphere there*” (7:51). This notion was shared among other interviewees. It was explained, for example that different neighbourhoods are developed for different target audiences,

congruent with policy (4:44, 5:55, 5:56). In comparison with another neighbourhood (development) in Harderwijk, called ‘Drielanden’, an interviewee explained: *“You could say that [Drielanden] is much more a green housing area development; so for that target group, so to speak. And oriented (...) towards those home seekers who are interested therein. While with our Waterfront project, we want to facilitate the water-related residents. Proportionately, therefore, there will be (...) slightly less green space in this (Waterfront) area than in the Drielanden area. Also, if you look at the play facilities there (...) they are of a somewhat different character”* (5:55). This was concurred in the vision on water (Gemeente Harderwijk, 2013, pp. 33, 35, 42). Moreover, the Waterfront development was planned and set up to have an urban character and therefore an ‘urban density’ – because of its adjacency to the city centre – which meant that there was not much space for public green; *“... it is just not the place for it”* (4:45, 4:48, 8:22). This statement is somewhat consistent with the structural plan for green, wherein – as mentioned earlier in the text – the city centre and Waterfront are noted as ‘taking up a special position’, namely that *“these are purely urban areas in which the greenery can be found more in the form of separate elements”* (Gemeente Harderwijk, 2007, pp. 35, 42). However, while the ‘urban’ aspect of the Waterfront development is focused on here, the ‘water’ aspect is another, for which the same document states: *“... The water atmosphere (...) can also be drawn into neighbourhoods adjacent to water. In addition to trees that are suitable along the waterside (willow, alder), more water and reed can also be applied in these green areas”* (Gemeente Harderwijk, 2007, pp. 28, 35). It therefore depends which perspective you employ.

Furthermore, designating play space in the masterplan meant that, from the start, this space was reserved early on and it was therefore well thought out – ‘distribution-wise’ – where children could go to play; in a collaborative effort of both the municipality and the project developer (4:58, 8:13). It was stated that play should be integrated to fit in the total plan ‘centrally’, and not ‘in a corner somewhere in the back’, also so that there is high social control and – therefore – often little nuisance (7:61) (Tauw, 2005, p. 27). Facilitating play for different age groups, moreover, was considered by taking into account distances to be covered in order for a child to (safely) access the play spaces: the older youth has got a larger action radius than the younger children (4:60, 4:63, 5:51, 8:13). It is acknowledged, however, that since ‘play’ is a vague term, this is easy to bend to one’s own interpretation – similar to the earlier mentioned ‘three percent rule’ and playground design in general (7:18). For safety reasons, furthermore, play spaces for the younger children were planned close to the homes – and away from traffic or water bodies – which, for example, resulted in them being placed inside the courtyards where possible (5:50, 7:23). For the older children, a larger playground accommodating different types of facilities is planned inside a park in a central location in the neighbourhood, which admittedly – however – was already being hampered (7:24).

The spatial context is of great influence on the ‘red/green ratio’ (ratio between buildings and public space) and, therefore, distribution thereof – and thus of green – depends on the setting; the Waterfront project – and ENKA as well – is a redevelopment project, which means that there were high costs involved in making the old industrial site ready for construction and transformation into a living area. These costs have to be compensated for – preferably with a margin – for the project to be financially lucrative and the fact is that a project developer can basically only earn back the investment by selling buildings (8:24). Implementing public space or green – of good quality – can increase housing prices, but only to a certain extent (4:6). It is stated that this balance in the ratio between housing and public space is difficult to find or identify – largely because the ‘perfect’ balance does not exist – and always subject of discussion (4:7). An interviewee explained: “ ... *That is always a bit of a game (...) Of course we want to build as many houses per hectare as possible, and with as large a plot as possible. And then what is left for facilities like roads and greenery and playgrounds, etcetera. But that is the game that is played with the urban planner and the municipality*” (8:24). For Waterfront, compared to ENKA, this discussion was less of an issue since the masterplan – and therefore the housing placement – was more or less set in stone, meaning there was very little room for manoeuvre or making adjustments in this set up: what was planned from the start is almost exactly the same as what was built (4:6, 4:51, 8:19).

Lastly, distribution of green (and more specifically: trees) is also strongly associated with costs: especially the larger trees are expensive to implement, because they require a large tree pit and therefore take up considerable space and also, many underground measures have to be taken before planting. For this reason, an interviewee stated, it is most cost-effective to plant trees in larger spaces, as opposed to having singular trees planted along streets or in tighter spots – this is also noted in the bid book (7:41).

### *Recognition*

An important note that was made in the municipal play policy and of relevance for this neighbourhood development is that, preferably, existing green space is used for transforming into playable green, since the existing greenery is older and more robust than newly planted green (10:19). Waterfront was built on a clean slate (‘tabula rasa’) with no existing structure, let alone greenery present in – or in the direct vicinity of – the project area after the sanitation of the soil; this does have its implications on this aspect (2:45, 4:15). As discussed earlier, this is of course also relevant in the case of ENKA; which is somewhat dissimilar, however, in the sense that for that development some pre-existing greenery could be preserved and because of the fact that the terrain is partially surrounded by forest (1:11, 3:22, 4:4, 4:16, 4:32, 4:34, 4:42, 4:43).

Furthermore, because of the history of the area – being a former industrial site – natural banks along the waterbodies in the neighbourhood structure were difficult to realize; the asbestos contamination in the ground(water) and – more specifically – the sanitation thereof, meant that vertical dam walls had to be



put in place, which makes softly sloping, natural banks a difficult feature to implement – in addition to the fact that these types of banks use up larger pieces of – valuable – land, which could otherwise be used for building, for example (5:52, 5:53). Green space in the form of natural banks along the water, as suggested in some policy documents, is therefore not (viewed as) an option in Waterfront (Gemeente Harderwijk, 2013, p. 35).

Play spaces in the Waterfront neighbourhood have been reserved from the start; they were appointed in the urban plan of the development – as was also recommended in the play policy (4:58, 10:25). In an interview it was stated that there is an ongoing discussion whether or not there have been enough play spaces provided in the plan and it was said that this is always a discussion point; since there often is no criterion for the quantity or quality of play spaces (4:61, 4:64). Interestingly, the ‘three percent rule’, as recommended by VROM, was not considered herein. Multiple interviewees admitted to either not knowing about this ‘rule’ or pointed out that it is not necessarily a good tool to use: when this ‘rule’ is applied, there is a chance that play is not viewed as an integral aspect of the development, but merely a quantitative standard to aim for; which then could result in providing ‘enough’ play space, but not having adequate play space (3:32, 6:37, 8:18, 8:32). Moreover, it was admitted that, while a helpful tool, it is difficult to tell what constitutes play space: *“A grass field on which you can just play freely is (...) also play space”* (2:13).

Coincidentally, in the Waterfront neighbourhood there are similar types of ‘play spaces’ in three locations that – currently – consist simply of grass fields; this is how the project developer and the contracted landscape architect interpreted the bid book, in which – as mentioned earlier – the functional descriptions of playgrounds are quite abstract and there is no mention of a prerequisite of play equipment, let alone green implementation on a playground (4:59, 7:12, 8:15). However, one point made in this document is that *“Playgrounds must comply with the requirements as specified in the municipal policy for play”* (Tauw, 2005, p. 27). This would imply that the proposed implementation of (more) adventurous playgrounds – as discussed earlier – should be followed; also in newly built neighbourhoods, where *“space needs to be secured and reserved for these playgrounds”* (10:18, 10:30). A statement made on the web-page of project Waterfront, does underline this ambition: *“Children like to play outside. This is also important for the development of different skills. They discover themselves and the world, they practice their motor skills and learn to interact with others. In the construction of the residential areas, we also create play opportunities for children in different age groups. We do this, for example, by placing play equipment or creating (natural) play areas”* (Projectbureau Waterfront, 2020). There was, however, no mention or acknowledgement of provision of these types of play spaces when questioned during the interviews. Interesting, though, is that the municipal play policy – along with other policies – was not deemed relevant (anymore) to take into account in this project development; neither by the project developer (and landscape architect) nor by the municipality (5:40,

4:65, 7:21, 7:22). For children's play, instead of on the importance of playground design – which has been captured adequately in the municipal policy for play and arguably could have been helpful for the landscape architect to use as a guideline – focus seems to have been put more on localization and distribution of play spaces in the masterplan (4:65, 7:21). A reason for not using policy for some aspects in this development – of which 'children's play' is one – is stated to be that policies are either not relevant anymore or still non-existent for certain topics: "*We (...) looked at what are currently actual topics – such as 'heat stress'. We do not have any policy on that at all. It is a hot item all of a sudden. (...) But also the new types of (...) children's play spaces. (...) perhaps in a complementary way to our policy. Actually, I have no idea what our policy exactly is on this topic*" (5:40, 7:33). Moreover, it was acknowledged that if – an updated – policy (for play) were to be created, it would probably describe the same instructions as were described in the bid book (7:34). Furthermore, policy is not deemed pertinent, because: "*You are here to create a pleasant environment and you are not here to implement rules in a policy word for word; certainly not a policy plan that is already twenty years old*" (7:32). It is therefore deemed better just to 'use your common sense' (7:34). Still, it is stated that an integral policy document for public space would be a very helpful tool for more integrated decision making on public space design; "*(...) without it being set in stone, but more like 'think about this', or 'these are possible solutions'*" (7:35). This integral policy for public space is the earlier mentioned 'Street of the Future' that is currently (March 2020) still in the making (7:38).

Furthermore, child-safety in the context of play or accessibility of play is stated to be more or less difficult to achieve depending on the situation; it is, still, said to be important to consider this aspect in the planning process (4:66). Most measures for increasing child-friendliness – in general – are made in the context of safe motorized vehicle mobility throughout the neighbourhood (5:50, 7:50, 8:28). One interviewee attributed this to the fact that child-safety or child-friendliness was not an aspect that was considered much in the bid book and therefore not incorporated as much as is sometimes the case in other projects; the bid book for Waterfront phase two was more technical (8:28). Congruently, there is no specific mention of child-safety in the bid book; what is more, no explicit mention of children at all (Tauw, 2005).

Child-safety in relation to waterbodies is in the interviews viewed as an aspect to take into consideration for the Waterfront development: "*This is a task for all of us, as a society and also as future residents*" (5:54). On the subject of play, as well as child-safety, another interviewee pointed to the fact that the waterbodies in the neighbourhood are not meant to be used for swimming, but adds that, by law, the waterbodies require a stepladder be implemented 'every so many meters', which also makes it 'interesting to go swimming'; "*No it is not allowed, but of course it will happen. You cannot stop that from happening*" (4:71). Noteworthy is that close to the Waterfront neighbourhood – and actually in a section of the total Waterfront development – there is an official swimming location (7:26, 7:27).

On the topic of green generally, the bid book makes a few relevant mentions for phase two of Waterfront; for instance that the public space should be designed in such a way that “*minimal maintenance is required*”, but also that public green should “*fit with the desired atmosphere of the plan*” – as also stated in policy – and that a green space should “*minimally cover ten square metres*” and should not be an “*unnecessary obstacle in the environment*” – also regarding traffic safety (Tauw, 2005, pp. 15, 25, 26).

It was acknowledged in the interviews that securing quality green space is difficult, because of these abstract descriptions of public space and green in the bid book, as well as weighing and balancing the ‘red/green’ ratio and, moreover, parking space; which was often stated to take up a large share of the available public space (4:20, 4:69, 5:32, 6:35, 7:58). It was mentioned in the interviews that the car takes up a very important place in the negotiations and that it should be considered a priority to follow the parking norm, which is 1.8 in both Waterfront and ENKA<sup>5</sup> (4:69). Another interviewee expressed that parking is “*the biggest drama we are fighting*” (7:39).

From the interviews, it was made clear that the motivation for the project developer to implement (more) green in a neighbourhood is mostly based on the extra quality that green adds to the living environment; the aesthetic value of green (8:23). Still, it was admitted that the urban planner and landscape architect mostly deal with green, and that the project developer will – ‘naturally’ – aim to build as many dwellings as possible (8:24).

### *Participation*

Firstly, it needs to be stressed that participation of children – explicitly – has not taken place anywhere in the Waterfront phase two project development; “*the parents have decided for the children*” (8:26, 8:32).

Citizen participation at the start of and throughout the planning process (of phase two) happened/happens through consultation of a focus group, which mostly consists of business-owners who work and residents who live near the development (4:49). The reason why residents of the Waterfront neighbourhood were not included herein, was stated to be simply because there were no residents present yet (7:57). Somewhat contradictory is that it was also stated that public spaces – and especially playgrounds – are often constructed in the final phases of a development; when the houses are already built and habitable (7:57). It was acknowledged that at that time – when the new residents have moved into their homes – often, a small initiative group is formed between them, which actively contacts the project developer (or landscape architect) to cooperate in the decision making on a play space design – this active attitude of citizens is something that the municipality appreciates and would like to see more

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<sup>5</sup> There should be parking space provided for 1.8 cars per household.

of (5:37, 5:38, 6:36). Noteworthy is the mention that oftentimes public space – and therefore also play space – is not prioritized by or even of interest to (future) residents of a newly built neighbourhood; even though the plans are established, agreed upon, and made available to the public, many times “people (...) look at the house and that's it. Then, once they live there, after six months you receive the questions and comments of these same residents, who suddenly take an interest in the public space” (7:67). Coincidentally, the earlier mentioned grass fields ‘meant for playing’ are/were a current subject of discussion amongst the residents (at the time of interviewing). However, not because they did not know about or took an interest in the public (play) space, but on the contrary; they had viewed the plans and were expecting more play facilities than were actually provided (8:15). The project developer was therefore starting a participation project with a delegation of residents in order to determine which facilities should be implemented and where – since they have to be distributed over three places (8:15). A project developer actively reaching out to the citizens for participatory projects is less likely to happen, according to the interviewees, because these processes take more energy and are costly to organise (5:38, 7:57). For phase three of project Waterfront, which is led by the municipality, it is envisioned to engage in more citizen participation; it was stated that the municipality is more enterprising and better equipped to facilitate these projects than a project developer is (5:47, 7:57). For phase three, it is planned to set up a focus group which is focused more on the (future) residents themselves than was the case in the focus group for phase two (4:56).

Lastly, it was stressed that citizen participation, while beneficial to the integrity of a decision making process, can sometimes also work adversely: the example was given of a redevelopment of a street in the municipality wherein people were not – necessarily – against trees in the streetscape; as long as they were not planted in front of their homes – because they valued their parking places too much. Every resident argued the same way, which resulted in a street with no trees – so a street that is not ‘climate-proof’ or sustainable in any way (7:36, 7:38). Another somewhat similar example, specifically about Waterfront, was that in the masterplan, a dog walking space was designated to be implemented – compliant with municipal policy. However, some residents did not like this idea and contacted the project developer who then decided not to construct the dog walking space; to the dismay of those involved in the project from the municipal side, because this now does not comply with policy and might thus result in future dog-owning residents complaining about this (7:11, 8:23). For this reason, the interviewee reasoned that municipal employees should be able to ‘protect residents against themselves’ by (helping with) deciding what is best for them in these types of situations (7:42).

### *Important further points made*

A recurring theme during the interviews was the influence of the duration of the development; the terms and conditions in the bid book for phase two of the plan – derived from policy and agreed upon by all

parties involved – were set up almost fifteen years ago and are therefore often dated and possibly less relevant in today’s society (5:40, 7:10). Terms like ‘biodiversity’ and ‘sustainability’ were not as common or prevalent back then as they are now; for example, in the enquiry for phase three of the project (4:54, 8:20, 8:29). This problem, however, is not uncommon and neither is the running time of the project (5:41).

Also, it was admitted that the original plan for Waterfront was of greater quality, but that the economic crisis and its negative effect on project development resulted in the plan needing to be slightly altered in order to ensure continuation of the project (4:49, 5:43, 6:11, 7:19, 8:6, 8:13).

Lastly, the interest in the importance of implementing green, viewed from a cost-benefit perspective, is not shared widely. In an interview, an example was given of a council meeting of the municipality whereby a Ground exploitation (Dutch: ‘Grondexploitatie’ or ‘GREX’) for the Waterfront project was discussed and wherein some subjects which involve large amounts of money were agreed to without further questions, whereas some much less costly subjects were debated over ‘for half an hour’ or ‘the whole evening’ (7:44). Even though the anecdote was not specifically about green, it can often be categorized in the latter group. It was later stated that green can be quite costly – per (large) tree, the costs for just facilitating and preparing a planting space can vary between five- to ten thousand euros – but that these costs should be considered more in the context of its lifespan and the services that it can provide, like increasing biodiversity and reducing water nuisance and heat stress; especially when you think of future-proofing the city and making sure that ‘in sixty or seventy years’ it still ‘functions like it should’ (7:41, 7:42, 7:43). Moreover, it was argued that there lies a task ahead of (all of) us, but specifically also for decision-makers, to better consider these benefits of green and better inform or even enthuse the general public about these ecosystem services so that they become more accepted and embedded into society (5:57, 7:42).

## 5. Discussion

In this chapter, the quality of this study is reviewed; the findings are discussed in the context of the theoretical framework as well as in relation to the applied methods. The results are linked and compared to the expectations and relevant findings identified in prior, related research and the limitations and possible implications of this research are presented.

The results of this study underline some of the earlier noted findings from prior research related to the topic of this study. For instance the fact that ‘ecosystem services’ are recognized in policy, but rather indirectly than explicitly, as was also concluded in existing literature (Albert et al., 2014; Kabisch, 2015). Moreover, the marginalization of children and their interests in policy was also found to be true in this study (Driskell, 2017; Malone, 2017). Adding to this, coherency and integrality between policies was found to be lacking; as also identified in prior research (Bouwmeester, 2006; van den Bogaard et al., 2009)

Similarly, consideration of children’s interests in planning practise – in this case: in neighbourhood project development – was found not to be significant in this study; which is congruent with other studies (Bornat & Shaw, 2019; Cele & Van Der Burgt, 2015; Tisdall, 2008). Furthermore, for both cases, children’s interests were merely taken into account for planning and design of formal play spaces and less explicitly, child-safety (mainly related to traffic) was also regarded as important. Still, however, the informal public space was not considered for playability and neither was green provision specifically, similar to what was found in literature (Bornat & Shaw, 2019; Bouwmeester, 2006; Engbers et al., 2010). Moreover, similar to what was found by van den Bosch et al. (2011), the topic of playable green did not play a significant role in the spatial planning process and was therefore not provided (much) in the studied neighbourhoods. Instead, the need for construction of housing was acknowledged to be a leading factor in both plans, whereby the earlier identified pressure on public (and green) space was high (Giezen et al., 2018; Haaland & van den Bosch, 2015).

Interesting findings that had not been identified in the analysed literature are, for example, the influence of the physical context and the desired atmosphere of a neighbourhood on green provisioning; sometimes green features are just not deemed fitting with the envisioned plan. Also, the need to provide housing for different people with different preferences adds to this fact; ‘not everyone likes green’ – this, however, also leads to an unjust distribution of green across and within neighbourhoods. Lastly, a green neighbourhood is mainly green for different reasons than with regards to children’s interests; the ‘end product’, therefore, can be beneficial for children, whilst this was not specifically intended in the planning process, but rather a positive ‘by-product’.

Still, just like any other research, this study also has several limitations. Firstly, because of the nature of this study, it is impossible to provide a complete answer to the research questions of this study, since the topic of nature provisioning in project development is subject to many contextual factors in spatial planning, both outside of the scope of this research, but also outside of the studied cases; every (neighbourhood) development is different. The intention, therefore was not to give a definitive answer, but rather provide a broader picture and an inside look at the spatial planning process of the studied cases, from which then findings could be extrapolated that might be useful to consider in similar developments. Because the specific subject studied here had not been studied before, the decision to select two quite typical cases would likely provide the most representative and externally valid results.

Next, by employing different data sources (documents analysis supplemented with interview data) and therefore triangulating the data acquired, it has been attempted to improve the internal validity of this study. Moreover, internal validity was also established by aiming to find congruencies between data from the different interviews, data from the desk research and also between both data sources. Furthermore, my interpretation of the findings obtained from the interviews was also member checked by the interviewees and their feedback was then used to improve the quality and validity of the findings without altering the facts stated. More, it was also attempted to provide results that are as representative and externally valid as possible. This, however, is difficult to achieve in any type of qualitative research, since interpretation of such data is always somewhat dependent on the researcher's subjectivity. As was explained in the methods section, the use of semi-structured interviews, guided by an interview protocol, was a way of making sure that at least similar questions and subjects were discussed with each interviewee; thereby assuring reliability. Still, it needs to be acknowledged that not every interviewee knew as much about the studied topic or field within the topic as the next (for instance a diversity in knowledge on municipal policy or project development) and therefore not every interview provided an equal amount of useable data; this, however, is also not the point of conducting qualitative research.

Also, this study was conducted somewhat with the presupposition that 'nature' is inherently positive for a child's development. Because most research underlines this notion, from this perspective it is easy to get carried away therewith and lose objectivity. Still, it was attempted to stay away from taking in a 'pro-green' standpoint and, as much as possible, impartially discuss the findings.

Lastly, the fact that current policies do not influence a running project development much, because the agreement on the practicalities of the plan had been signed at the start and this is what is therefore abided by, had not been taken into account when selecting the cases or starting the document analysis, simply because I did not know that this was how it worked prior to doing this research. Still, it can be supposed that, since children's interests were not taken into account much in any of the more recent policy documents analysed, had policy documents been analysed that were in use at that time, similar or possibly poorer results would have been found on this subject; which would also have been of less relevance for spatial planning in current times, but rather significant in hindsight.

## 6. Conclusion

In this chapter, the answers to the research questions are presented. They are derived and interpreted from the findings in the results chapter. Because this study employs a comparative case study approach, for each question, the cases will be discussed separately and subsequently combined into a comparative answer. First, the three specific research questions are answered, after which these answers are combined into a comprehensive conclusion for the general research question.

### 6.1 How are ecosystem services as a children's interest integrated into municipal policymaking and policies related to children?

#### Ede

First, noteworthy is the municipality's slogan: '*Green, healthy and active*'. On the subject of ecosystem services, the positive influence of green on public health, but also social cohesion, climatic regulation, biodiversity and general experience of the living environment is recognized throughout many documents. Moreover, the presence of green is – seemingly unanimously – viewed as a very attractive aspect of (living in) Ede. Still, whilst this focus on green as an ambition is very positive, green is rarely linked specifically to children; while the importance of green for the general public is recognized – which of course also includes children – there is little explicit mention of its relation to children. Furthermore, the few times that ecosystem services are mentioned in combination with play or children, this is very broadly and insignificantly stated. This, even though inclusivity is also a recurring theme in the municipality's ambitions.

Moreover, whereas multiple documents state the ambition of the municipality to contribute to a positive and favourable environment for the youth to grow up in, what this environmental relationship with children constitutes specifically is not mentioned anywhere. For instance, while public space is recognized as a possible contributing factor for stimulating activity; practical examples or steps to take in providing such living environments and public space for children are not mentioned.

Still, an important aspect anchored in the play policy in Ede is that although public greenery is not meant to be entered; children's play is an exception to this rule. There is no further mention as to why this opportunity – accessible green – is important for children, but the fact that this aspect is included in the policy is very significant and a good example of recognition of children's interests on municipal level. For more formal play environments, the municipality seems to take on a supportive role wherein the



interests of children are recognized and it is stated that the possibility of combining green with play should be investigated for every case. It can be concluded, however, that green does not take up a prominent part in the play policy. Through the recent planting of tiny forests, ecosystem services for children are now recognized, which is positive; however, nowhere in the current play policy – which is in need of an update, as already suggested – is this acknowledgement made. Still, this initiative might be paving the way to green – in relation to children – becoming a more integral part of policy in the future.

The ‘Ede Doet’ initiative is a positive contribution to children being taken seriously and actually regarded as participatory subjects in decision making on public space. Also, the ambition of including citizen participation and incorporating relevant parties, such as mental health organizations, into decision-making on projects involving green(ing) is very positive. It seems that Ede is aiming to not only make green an integral part of the living environment in the municipality, but also to integrally work together with other parties in achieving this goal.

In the present day, however, it can be concluded that integrality specifically concerning children’s interests and children in general is not achieved yet. From the conducted document analysis it can be stated that children, play and/or green are rarely acknowledged across other policy domains than in the policy for play. Findings from interviews confirm this. Play (in green), and therefore children’s interests are marginalized in municipal policy in Ede. Ecosystem services in the public interest, however, are recognized.

## Harderwijk

Firstly, though dated, the play policy states that because of the decline of opportunities for creative play in the living environment, the municipality wants to create more adventurous (natural) play spaces and also make the living environment in general more challenging and playable. This is deemed necessary, because creative play is vital to a child’s healthy development and because of the educational value of being in contact with nature. Whilst a very positive ambition, it is discordant with the interviewees’ statements about this policy and play in Harderwijk in general. Green was stated not to be considered in playground design, aside from the occasional project initiated or led by an ‘enthusiastic colleague’. So while in policy play and green are interconnected in Harderwijk, this is rarely the case in practise.

Furthermore, the play policy is stated to have been set up integrally, incorporating aspects from other policy domains such as youth policy; wherein, however, there is no mention of the importance of play, green or the physical living environment in general, for children. In other very relevant policies, for example in the structural plan for green, the connection of green with children (as well as play) is also not made; which is odd, knowing that integrality is strived for within the municipality of Harderwijk. Throughout other policy domains, such as the health policy and vision on living, however, the relationship between public space and health, also for children, is incorporated; yet, no specific mention

of green is made herein. Still, improving the accessibility of green space is seen as a challenging, but important ambition in municipal policy. Creating healthy living environments for all residents is a recurring theme wherein green – also in combination with water – is viewed as an important contributing feature. What this can mean for children is not mentioned specifically, but this is an example of an ambition that is positive in the public interest and therefore, likely, also in children’s interest.

More on this subject, the municipality aims to provide everyone with a suitable living environment by appointing every neighbourhood a distinctive character. This is not necessarily wrong, but might conflict with the just distribution of children’s spaces, such as appropriate play-facilities and green. One neighbourhood, for example, might be characterized as ‘green’ whereas another is characterized as ‘urban’, resulting in different provision of facilities, also for children. Moreover, one neighbourhood was characterized specifically as ‘child-friendly’, which almost seems to imply that other neighbourhoods are not – or at least not as child-friendly.

Aside from the focus on children, however, in most policies analysed, there is some sort of acknowledgement of ecosystem services for people in general. As in Ede, green in Harderwijk is also viewed as ‘capital’, which should have a high priority. Trees should be taken care of, given a correct placement and given enough time to grow healthily. This is an important comment made, which also has its effect on potentiality of combining green with play; preferably this takes place only where green has developed fully and has become sturdy and robust enough to be able to handle children’s play. This reasoning, while logical, has its implications on natural play provision in project development – also in the analysed cases. Related to this are also the conflicting values of ecology, child-safety and children’s play, which were pointed out in policy.

An interesting note in the play policy is furthermore that neighbourhood building density influences the type of play provision; in the more broadly built neighbourhoods there is more informal playable space and therefore less need for formal playgrounds, compared to more densely built neighbourhoods with less informal public space. While the reasoning is sound, the importance of providing creative – adventurous – play facilities was stressed earlier in the document and this excerpt seems to point to a possible unjust distribution thereof within the municipality.

It can be concluded that children – as a specific group – and their interests are underrepresented in municipal policy in Harderwijk; except for those policy domains directly associated with children. This is therefore also true for the subject of ecosystem services related to children’s interests. Still, there are a few important mentions thereof, and also of ecosystem services in general, which can indirectly be beneficial for children as well.

## Comparison

Whilst green is integrated in both policies for play in Ede and Harderwijk, there is a difference in how it is integrated. For Harderwijk, the policy points into the direction of creating formal play spaces – to counter the loss of informal play spaces due to increasing urbanization and densification – that are adventurous and therefore inviting for creative play to take place. Green is a key element of these play spaces – one can imagine natural playgrounds. These formal adventurous playgrounds are a key point in the vision on play of the municipality of Harderwijk and the ambition is to create new or transform old (traditional) play spaces or former public green areas into adventure playgrounds. On the other hand – in the context of green – in Ede, the focus is on the informal play space. Its play policy establishes permission for children to enter and make use of public green spaces for playing purposes throughout the entire municipality. Because of the fact that children often play in places other than formal playgrounds, one might argue that this measure is also of great importance in the context of this study.

What is congruent for both municipalities is that implementation of green is mostly motivated by other ecosystem services than the ones specifically relevant for children. Especially in the more recently established policies and visions that were taken into account in this study, the benefits of green focus mostly on aspects like sustainability in general and climate regulation. The positive effect of green on health was also recognized and ecosystem services were in both municipalities linked to providing a healthy living environment, so the neighbourhood scale was deemed of importance. Still, aside from in the play policy – and slightly more in Harderwijk than in Ede – there is little mention of the relationship of green and children elsewhere in policies or visions. Concluding, it can therefore be stated that children, as a specific group of society, as well as their interests – not to mention ecosystem services explicitly – are underrepresented in both municipalities' policies. The fact that the play policy of both municipalities is quite dated, underlines this notion.

## 6.2 How are ecosystem services and children viewed in the process of neighbourhood planning?

### ENKA

Firstly, it can be stated that ecosystem services, as a children's interest, are not specifically regarded as an important aspect to consider in the spatial planning process of the ENKA development. The term 'ecosystem services' was furthermore not known amongst most interviewees. Still, while it seems not to have been integrally considered; implicitly, some aspects of the plan do relate to this subject.

It was, for example, stated – in interviews, as well as on the website and in the brochure – that the forest abutting the development site is ideal for children's play and that some more formal playgrounds would feature more natural facilities – this latter aspect was stated to be more difficult to implement because of the 'creativity-limiting' rules on playground requirements; but also because of the more or less clean slate on which the development took place, which meant that most green had to be planted anew and is therefore too frail to be used for play. Another noteworthy feature of the plan are the broad alleyways with a strip of green implemented behind the houses in parts of the plan, which were mentioned to be designed this way so that these places would become more child-friendly and playable, among other reasons.

Children's interests in general, furthermore, were merely taken into account in the planning process through providing 'sufficient' playgrounds – in line with policy – whereby tools such as the 'three percent rule' or the green-norm were not utilized. Also, for the planning of the infrastructure, it was acknowledged that – whilst not solely aimed at children – implementing continuous paths separate from the main traffic structure is a feature that contributes to children's safety.

Generally, reasons for implementing green in ENKA were mentioned to be for improving the overall quality of the plan and thereby (possibly) increasing housing prices; to make it fit in well with its surroundings and the (green) municipality; to contribute to biodiversity, and also – somewhat vaguely – to positively contribute to the inhabitants' health. The quality-improving aspect of green, however, was stated to have a limit; green should not become a nuisance, as was the case for a few residents – a problem which had now been resolved. Moreover, it was stated that not everyone enjoys green as much – which is also why different building styles are provided within the plan: something for everyone.

Finally, providing many inhabitants with relatively large private gardens, and therefore leaving fewer room for public space, was mentioned to be a quality-improving measure; but also one that makes responsibility for green provisioning (for children) and taking measures for sustainability in general, a duty for the inhabitants as well.

## Waterfront

For the Waterfront phase two development, it can be concluded that ecosystem services as a children's interest have not been considered an important subject to take into account in the spatial planning process. The interviewees were also not familiar with the term 'ecosystem services', and neither was it mentioned in the brochure or website. Implicitly, however, there were a few relevant points made relating to this subject.

Children's interests were mostly recognized through provisioning of play spaces, for which placement was already determined and reserved in the early stages of the planning process. In the bid book for the development of Waterfront phase two, a short section on the requirements of playgrounds was added, wherein was also stated that playgrounds in Waterfront should comply with the municipal policy on play; which, as discussed earlier, recommends adventurous (natural) play. Whilst the website of Waterfront does make mention of the ambition to implement such play spaces, the interviewees had no knowledge thereof. Moreover, they were not very aware of what the play policy constitutes and it was admitted that this policy was not used much in this development, but rather the requirements in the bid book stemmed from applying 'common sense'; also, because the play policy was deemed outdated.

Next, because the focus of the Waterfront development is on the water aspect; green – whilst taken into account – was not of most importance. Moreover, the space used to facilitate water in most sections of the neighbourhood resulted in fewer room being left for other public space; therefore green. Also, parking was acknowledged to be an aspect of project development that always uses up a large portion of the available public space, and therefore 'clashes' with green provisioning; also in Waterfront. It was also stated that green implementation in project development is mostly motivated by the aesthetic value and added quality that green provides. Still, it was admitted that a project developer will aim to construct as many buildings as possible, since this is where the real value lies for him. Furthermore, the setting and desired atmosphere – a more densely set-up, urban character – was not deemed fitting with provision of (dense) public green. This is in line with the municipal vision, wherein is stated that every neighbourhood should have a different distinctive trait and an accompanying, appropriate green structure; for urban areas, it was determined that green be used limitedly.

In the same vein, as stated earlier, the municipality aims to provide home-buyers with an appropriate place that suits their wishes – something for everyone – whereby one neighbourhood is even specifically deemed 'child-friendly' – notably one that is also (deemed) relatively green. Therefore, even though Waterfront is also marketed towards families with younger children, apparently there is a difference in the way in which children's interests are considered therein.

## Comparison

Comparing both neighbourhood developments, the way in which ecosystem services as a children's interest are incorporated into the spatial planning process is quite similar, in the sense that in both cases, not much attention was paid specifically thereto.

Still, it can be stated that for ENKA, this connection of children with nature – and green provisioning in general – is a more integral part of the plan than is the case for Waterfront phase two. This is, however, mostly implicitly acknowledged and, moreover, highly related to the natural surroundings of the ENKA site, which provided the incentive to extend this atmospheric quality into the neighbourhood – the Waterfront site is situated in a more urban environment so this connection is different.

This also influenced the spatial set-up of both neighbourhoods, which differs considerably; aside from some variation in building styles, in general, ENKA is more broadly and Waterfront more compactly built – typifying a 'garden-city' and an 'urban' character respectively. Green features, therefore, were deemed less fitting with the Waterfront's urban identity and consequently of a different nature and implementation – congruent with municipal policy – as opposed to ENKA; for which green is identified and advertised as an inherent quality of the plan.

Moreover, Waterfront's situational adjacency to the water resulted in a focus on this aspect, rather than on green; on which was focused more in the case for ENKA. Even though both water and green provide distinctive features of living environments and both attract different potential home-buyers; in the context of this study, the green aspect is deemed more substantial.

Still, overall, it can be concluded that, even though green provisioning in ENKA is more significant than in Waterfront phase two, this was indeed not motivated by considering the benefits thereof for children specifically.

### 6.3 How environmentally just is the spatial planning process of urban green areas for children in neighbourhoods?

#### ENKA

First, it should be addressed that the spatial planning process of the ENKA neighbourhood development is highly influenced by the municipality, even though the project developer is responsible for the direction. Through translation of their policies, the requirements of the plan are established in the collaboration agreement between these two parties and it is mainly through this agreement at the start of the project that the municipality can influence what is planned. Policy, therefore, needs to be clear in order for a comprehensive translation into the points included in the agreement.

In policy, on the subject of distribution, the ambition of greening the municipality and, consequently, the ‘equal distribution of access to green nearby’ is important for children’s interests in light of this study. Related thereto, the recognition of children’s play happening everywhere and the associated, in policy anchored statement that children are allowed to play in all municipal public greenery, are very positive. In this regard, for spatial planning it was advised to adopt the three percent rule for every new project development and also provide playable green spaces. Also, it was stated that every new housing development should have a green character. A number of ecosystem services were noted throughout the policy documents, which is also positive – still, most of these ecosystem services were not directly linked to children. Participation of children in decision-making does not constitute any significant or explicit position in municipal policy as of yet, even though citizen participation in general is integrally viewed as important. Children’s interests, it can be concluded, are not of specific importance in policy, outside of the policy domains specifically focused on children.

When this is true for policy, this also likely holds true for the collaboration agreement – for which policy was used – and therefore for the entire spatial planning process of ENKA. As expected, this was the case. Whilst judging by the end result it can be concluded that the green set up of the neighbourhood is beneficial for children in light of this study, this relation was not stated to be explicitly taken into account in the spatial planning process, yet motivated more by other factors such as the environmental characteristics of the surroundings. Arguably there have been some measures taken to facilitate equal distribution of the provided green, such as the implementation of broad and green alleyways in parts of the plan, but the fact remains that green is less accessible for children growing up in the more urban section of the neighbourhood. Furthermore, participation of children, as also absent in policy, was not employed in the neighbourhood development of ENKA – residents in general, however could participate in decision-making on playground design and children were ‘welcome to come along’, somewhat fitting with rung six on the ladder of young people’s participation: *adult-initiated shared decisions with*

*children*. Still, children's interests were mainly taken into account through planning of formal playgrounds; a more traditional view of this, in reality, much broader concept.

Concluding, therefore, environmental justice of children's interests on the subject of ecosystem services provisioning – albeit, from an outcome based perspective, seemingly quite positive – has not been of much importance in the spatial planning process of ENKA.

## Waterfront

Similar to ENKA, the spatial planning process of the Waterfront phase two development is influenced by the municipality through translation of relevant policies into the bid book. For this reason municipal policy should be comprehensive and useable for setting up clear requirements for the development.

It can, again, be stated that children's interests, aside from the policy domains directly linked to children, are not mentioned often in other policy documents. Even though integrality of policy is the ambition in Harderwijk, the play policy – which makes very interesting points concerning the topic of study – is discrepant with most other policy domains, which mostly do not discuss children's interests; or otherwise merely insignificantly. Still, the few mentions of children's interests outside of the play policy, do indicate that growing recognition is made of the influence of the physical environment on a child's development; whereby the neighbourhood scale is recognized as of importance herein. Neighbourhoods in general are a recurring subject, for which is stated that every neighbourhood should have its own character; which does implicate a possible issue for distributive justice. The benefits of green for people in general are recognized across different policy domains. The recognition of the importance of playing in nature and subsequent ambition to implement adventure playgrounds and to distribute these equally in the municipality is a statement made in the play policy that is especially interesting; yet it needs to be noted that the interviewees did not know about this fact. Lastly, children's participation is employed within Harderwijk, but this mostly consists of children being able to influence playground design when an old playground is due for reconstruction; it does not have a prominent place in policy.

It needs to be noted that, while some statements in policy are promising, the 'translation' thereof into the bid book has not happened as thoroughly as expected. The play policy, for example, was not utilized; rather 'common sense' was used therefore – which is a missed opportunity, since the play policy, in light of this study, is very comprehensive. It is, however, stated in the bid book that play spaces should comply with said play policy, so in this respect it was 'included'.

Still, while the municipal policy and even the Waterfront website recognize the need for natural play for children, the interviewees did not acknowledge that this was planned in the neighbourhood. Distribution of play spaces was done in the masterplan, but these play spaces did not get natural features; if even any features at all. The main argument against urban green spaces – for children's play – was that these do



not fit with the urban atmosphere that was envisioned there; moreover, not with the water aspect that is integral in the development. This is in line with municipal policy on providing distinctive, characteristic neighbourhoods, but is not necessarily just from the perspective of equal distribution (of ecosystem services for children). Finally, congruent with – the lack of mention thereof in – municipal policy, no children’s participation was employed in this spatial planning process, merely some participation of residents in general, which fits with *decoration* on the ladder of young people’s participation.

Environmental justice of children’s interests on the subject of ecosystem services provisioning, in conclusion, was not considered in the spatial planning process of Waterfront phase two.

## Comparison

The difference in the physical properties of the ‘end results’ of both neighbourhoods might insinuate that the spatial planning process of ENKA has been more accommodating of children’s interests on the subject of green provisioning – yet, this is not necessarily the case.

For both municipalities, it can be stated that policies are (still) lacking integral correlation on the subject of children’s interests; if acknowledged at all. Outside of the play policies, some recognitions were also made within other policies of the relation between a child’s physical environment and its healthy development and the growing realization of the importance thereof and also of green for people and the living environment in general. They were at times also supplemented with vague statements on equal distribution of green. Still, not many concrete steps were provided for achieving this. Participation of children was furthermore overlooked in all policies.

Moreover, policies relating to children’s interests were not employed for translation into objectives or requirements for both neighbourhood developments, or otherwise resulted in incomprehensive or ambiguous statements. The project developer could thus interpret the requirements in a way that suited his intent; which, for instance, led to the construction of grass fields ‘intended for play’ in Waterfront phase two.

In both cases, the planned green was mostly motivated for other reasons than specifically for children’s play. The spatial planning processes of both neighbourhoods were conducted without much regard for this studied subject. Instead, children’s interests were somewhat recognized through planning of formal playgrounds – for which, admittedly, in ENKA some utilization of natural elements was made – and distribution thereof was also taken into account. The broader perspective on children’s play – wherein the whole public space, including greenery, is regarded as possible play space – was, however, not considered significantly for both neighbourhoods. Direct participation of children was not employed at all, however, participation of residents in general – also on subjects such as playground design – did occur and it was stated that children were ‘welcome to come along’ with their parents to these participatory events; this specific point fits with rung six – *adult-initiated shared decisions with children* – on the ladder of young people’s participation. However, the overall participation of children in both projects is characterized more by *decoration* (rung two), since most of the decisions made on subjects involving children’s interests were made by adults without any consultation of children.

Concluding, spatial planning of urban green areas in both neighbourhoods was not conducted with much consideration for children’s interests, and is therefore environmentally unjust on all three dimensions in light of this subject.

## 6.4 What is the influence of the spatial planning process of neighbourhood project development in the Netherlands on the provision of ecosystem services for children?

First, it can be stated that, according to the findings from the studied cases, spatial planning of neighbourhood project development is not very concerned with ecosystem service provision for children. Children's interests in general were not regarded as very important, outside of playground planning. Moreover, ecosystem services were, in both cases, not acknowledged as a tool that was utilized for motivating decision making and the relation of ecosystem services to children was not significantly recognized; neither in municipal policy, nor in project development.

Multiple factors have been identified as constraining the spatial planning process and therefore provisioning of child-friendly natural environments in newly built neighbourhoods. For instance, lack of relevant, comprehensive and integral municipal policy on the subject of children's interests (for instance, related to green), which – somewhat consequently, but also based slightly on ignorance of policy – leads to little use thereof for translation into requirements for the development in the collaboration agreement; which as a result are often ambiguous and therefore multi-interpretable. More, having to comply with rules and regulations for children's play attributes ('limiting factors for creativity'); combined with project developers' and municipalities' preferences, modus operandi and therefore lack of thinking outside the box on this subject were stated to be difficult aspects. Also, due to its duration, the requirements of the plan which were agreed upon at the start of the development can be deemed slightly 'outdated' when the project has finished; these agreements remain relatively unchanged during the process.

Furthermore, the desired atmosphere and physical properties of a plan are of great influence on the type of facilities planned, such as green or play; these have to be fitting with the character of the development. The ENKA development, for example, has a relatively green set-up, which was the intention from the start; a natural play space is herein more fitting than in Waterfront, for example. Still, also within such a 'green' neighbourhood, differences in building styles have implications on environmental justice. While 'accessible' to all, children living in the greener part of the plan, naturally, have access to green closer by than do those living in the more urban section of the plan; and therefore one could still state that access to green – from a child's perspective – is unjustly distributed. Moreover, the ambition to offer a diverse range of living environments, both on municipal scale as well as within neighbourhoods themselves, makes that there is something for everyone; not everyone is so keen on a green living environment. This, however, also leads to distinctions in neighbourhood characteristics, such as explicitly 'child-friendly' or 'green' neighbourhoods, which seems to imply that other neighbourhoods

have not been developed with – as much – consideration of these important aspects; again, an example of unequal distribution. ENKA can for instance be classified as a ‘green’ neighbourhood, whereas for Waterfront, ‘water’ is the dominant trait. Whilst both water and green have distinctive qualities and are both attractive features of a living environment; in light of this study, the green aspect is deemed more paramount. It can therefore be inferred that the ENKA development has resulted in the more favourable outcome concerning the topic of ecosystem service provisioning for children; albeit this was largely indirectly considered in the spatial planning process.

Concluding, it can be stated that the influence of the spatial planning process of neighbourhood project development on provision of ecosystem services for children shows promise; however, the consideration of this specific subject in such projects has yet to be acknowledged and is therefore, according to this study, still unsatisfactory and environmentally unjust.

## 7. Reflection

### 7.1 Critical reflection

First, concerning the policy document analysis, I could have asked the municipality for a list of policies that they would deem relevant to analyse for this topic. This, in order to make sure that I obtained the correct documents, as well as making sure that I took into account all relevant policies. Also, whilst my interpretation of the findings derived from the interviews was sent to the interviewees in order to get feedback thereof, the same could have been done for the analysis of the policy documents; in order to increase validity, after analysing the documents, the findings could have been proposed to relevant municipal policymakers for a check to see if my interpretation of these findings was correct.

In retrospect, I could have also first thoroughly conducted the policy document analysis before starting my interviews, instead of merely scanning the policies. This might have prepared me better for the interviews and could have made me more able to steer towards or focus on certain aspects deemed especially interesting from the policies. The interviews were now conducted with some general prior knowledge of the subject, but I could have been more prepared for the specific cases.

Also, knowing what I know now, I could have analysed the policies which were effective at the time of setting up the collaboration agreements for both cases. This would have provided a clearer picture of the setting wherein the development was (to be) taking place. These documents, however, were more difficult to obtain and, moreover, would likely not be relevant anymore, since they had now often been updated several times. In turn, therefore, the results of this study would not have been as relevant as they are now and might not have been representative for other cases, since the information would be quite dated.

Furthermore, the focus of this study could have been placed on one specific case, of which then a more in depth (valid) analysis and therefore thorough picture could have been painted of the studied subject in its specific context; albeit possibly not as representative in different contexts as the results from this comparative case study.

## 7.2 Recommendations for further research

An interesting topic, mainly in the field of landscape architecture, could be to investigate how best to integrate (playable) green space in neighbourhoods, whilst still preserving and respecting the envisioned ‘atmosphere’ and character of the plan; when this atmosphere differs from the green character, it would be especially fruitful to somehow design such green space as an integral part of the plan so as to still be able to provide fitting green in such a neighbourhood.

Next, related to the slight datedness of the agreements as set up for the neighbourhood developments analysed in this study, future research might focus on a more recently commenced case which is more in accordance with the current themes, such as sustainability and climate mitigation. The downside of analysing such a case is that little has happened yet and the future and end result of the plan are still unsure, so there is no way of ‘verifying’ the agreements.

Also interesting could be a study that focuses solely on (municipal) policymaking and the way in which children’s interests (and ecosystem services) are integrated therein, or not. Moreover, the way in which policymaking might be concerned with these topics and what could be done to better anchor such subjects in policy so that they are more widely recognized and can thereby be more effectively utilized for practical translation into such situations as neighbourhood project development.

What is also an interesting topic for further study is whether the importance of ecosystem services, which is increasingly becoming more acknowledged, is something that government should (be able to) impose on the public (‘for the greater good’) or rather something that should be subject to personal preference and decided upon through more active participation. It can, for example, be argued that provisioning of green is a form of preventative health care which every member of society should receive justly – in the public interest – however, there is also freedom of decision herein; which, withal, can lead to green being dismissed in the living environment, as also found in this study.

Furthermore, further research might include the personal perspectives of children, or otherwise (future) residents on this subject, for example by means of surveys or interviews. This, in order to provide an even more comprehensive analysis.

Lastly, a similar study to this one could be repeated, but instead only one case can be studied; more thoroughly. This might garner more detailed information on the subject, yet might be less representative for other cases.

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## Appendix I: Documents analysed

The following municipal documents were consulted for information on the topic of this study.

### Ede

Document	Title	Effective
Play policy	<i>Nota Ruimte voor Spelen: Speelruimteplan 2008</i> - <i>Draaiboek Integraal Beheer Openbare Ruimte (DIBOR)</i>	2008
Youth policy	<i>Beleidsplan van de gemeenteraad van de gemeente Ede houdende regels omtrent Jeugd en Onderwijs gemeente Ede 2019-2022</i>	2019
Health vision	<i>Regiovisie Publieke Gezondheidszorg Gelderland-Midden</i>	2016
Public space/ green vision	<i>Visie Openbare Ruimte, gemeente Ede</i> - <i>Bomenbeleidsplan gemeente Ede: Toekomst voor bomen, bomen voor de toekomst</i>	2016 2013
Structural vision	<i>Stadsvisie: Omgevingsvisie Ede Stad 2030</i>	2017
Living vision	<i>Woonvisie Ede 2030</i>	2016
Water vision	<i>Gemeentelijk rioleringsplan Ede 2018-2022: Verbindend Water</i>	2017

### Harderwijk

Document	Title	Effective
Play policy	<i>Speelruimteplan 2004</i>	2004
Youth policy	<i>Transformatieplan Samenwerking Noord Veluwe 2018-2021</i>	2018
Health policy	<i>Samen voor een gezond Noord-Veluwe 2017-2021</i>	2017
Public space/ green vision	<i>Handboek Harderwijks Groen</i>	2007
Structural vision	<i>Structuurvisie Harderwijk 2031</i>	2012
Living vision	<i>Ontwerp Woonvisie 2017-2027</i>	2017
Water vision	<i>Waterplan Harderwijk 2013 - 2018</i>	2013

## Appendix II: Interviewees

The following actors were interviewed for this study. Whilst most interviews were conducted with a single interviewee, two interviews were held with two interviewees at the same time. The interviewees' names have been kept anonymous and are referred to in the text by the accompanying codes.

### Ede (ENKA)

<i>Code</i>	<i>Involvement</i>	<i>Organization</i>	<i>Date</i>
<b>1</b>	Project supervisor ENKA	Municipality of Ede	8-7-19, 10:00
<b>2</b>	Policy officer green Advisor play equipment	Municipality of Ede Municipality of Ede	5-8-19, 15:30
<b>3</b>	Project developer ENKA	AM project development	8-10-19, 16:00
<b>4</b>	Landscape architect ENKA	Lodewijk Baljon landscape architects	15-7-19, 14:30

### Harderwijk (Waterfront)

<i>Code</i>	<i>Involvement</i>	<i>Organization</i>	<i>Date</i>
<b>5</b>	Project manager Waterfront	Project office Waterfront	26-6-19, 13:30
<b>6</b>	Alderman green, living, public space a.o	Municipality of Harderwijk	3-7-19, 10:00
<b>7</b>	Urban planner Waterfront Policy officer maintenance, green and play	Municipality of Harderwijk Municipality of Harderwijk	23-7-19, 15:00
<b>8</b>	Project developer Waterfront	Koopmans TBI	1-10-19, 15:30
<b>4</b>	Landscape architect Waterfront	Lodewijk Baljon landscape architects	15-7-19, 14:30

## Appendix III: Interview protocol

Naam geïnterviewde	
Organisatie en functie	
Datum en tijd	

### INTRODUCTIE

Mijn naam is Roel Visser en ik studeer Ruimtelijke Planning aan de Wageningen Universiteit. Ik ben op dit moment bezig mijn opleiding af te ronden met het schrijven van een masterscriptie. Mijn scriptie gaat over kindvriendelijke natuur-/groenvoorziening in stedelijke nieuwbouwwijken en de manier waarop dit tot stand komt in het planningsproces. Aan de hand van criteria heb ik hiervoor als onderzoeksgebieden de wijken ENKA in Ede, en Waterfront in Harderwijk geselecteerd.

De aanleiding voor dit onderzoek is het feit dat kinderen steeds minder buitenspelen en de daaraan gerelateerde afname van contact met de natuur bij kinderen, wat vooral in stedelijke gebieden veel voorkomt. Onderzoek wijst uit dat deze problemen negatieve gevolgen hebben op de gezonde ontwikkeling van kinderen en hierdoor ook op de toekomstige generaties. De fysieke omgeving van de wijk kan, voor jonge kinderen met een kleine actieradius, gezien worden als hun leefwereld en kan hierdoor veel invloed hebben op de manier waarop kinderen opgroeien. Vandaar dat ik geïnteresseerd ben om over dit onderwerp mijn onderzoek te doen.

Bij het planningsproces van nieuwbouwwijken zijn meerdere partijen betrokken die allemaal verschillende belangen hebben bij de ontwikkeling van de wijk. Deze actoren moeten het met elkaar eens worden over verschillende onderwerpen waaruit uiteindelijk een gezamenlijk plan moet komen. Eén van deze onderwerpen is de (invulling van de) openbare ruimte, en daarmee de groenvoorziening. Zoals eerder vermeld kan de openbare ruimte, naast o.a. het effect dat het kan hebben op het algemene leefklimaat in de wijk, een grote rol spelen in de manier waarop kinderen opgroeien en hierdoor ook in hun verdere ontwikkeling.

Deze studie richt zich om deze reden op de manier waarop kindvriendelijke natuur-/groenvoorziening in stedelijke nieuwbouwwijken tot stand komt en een belang vormt in het planningsproces.

### VRAGEN

#### 1. De geïnterviewde:

- 1.1 Kunt u iets vertellen over wie u bent en wat uw functie is binnen deze organisatie?
- 1.2 Op welke manier bent u betrokken bij (het planningsproces van) de nieuwe wijk [ENKA/Waterfront]?

#### 2. Gemeentelijk beleid

- 2.1 Op welke manier zijn de thema's *buitenspelen* en *groen* opgenomen in verschillende beleidsdomeinen in [deze gemeente]? (jeugd, wonen, gezondheid, speelbeleid, beheer)

- *Welke afdelingen van de gemeente spelen een rol bij het opstellen van deze beleidsdocumenten?*
- *Is hierbij aandacht geschonken aan de voordelen van contact met de natuur voor kinderen?*
- *Is er in het beleid rekening gehouden met de combinatie **groen + jeugd (+ buitenspelen)**?*  
→ Zo ja: hoe komt dit tot uiting? → Zo nee: waarom niet?

2.2 Hoe worden kinderen meegenomen in de besluitvorming van onderwerpen waarin zij zelf een belang hebben; zoals buitenspelen?

- *Is de gemeente zich bewust van de wensen van kinderen op gebied van buitenspelen? → J.B.*
- *Zijn er participatieprojecten waarin de inbreng van kinderen wordt meegenomen in beleid of praktijkproject?*

2.3 Hoe worden verschillende beleidsdomeinen gerelateerd aan kinderen afgestemd met elkaar in [deze gemeente]? (jeugd, gezondheid, spelen, groen-/natuurbeheer)

- *Holistische aanpak? Afzonderlijk van elkaar?*

2.4 Hoe worden specifieke beleidsdoelstellingen in implementatie gebracht?

- *Omzet van theorie (beleid) naar praktijk?*
- *Handhaving van besluiten? Checks?*

### 3. Wijkniveau

3.1 Kunt u iets vertellen over hoe het plan voor de wijk[ENKA/Waterfront] tot stand gekomen is?

- *Wie zijn/waren de grondeigenaren? (% gemeentelijk grondbezit?)*
- *Welk gemeentelijk grondbeleid is er gevoerd? (actief, faciliterend, publiek-privaat)*
- *Wat is en was de rol van de gemeente bij het hele proces?*
- *Wat voor verschillende belangen spelen er bij de ontwikkeling?*

3.2 Hoe is de landschappelijke kwaliteit en het groen in de wijk gewaarborgd in de plannen?

- *Wat is de invloed van de gemeente op groenvoorziening? → Groenbeleid? Eisen?*
- *Spelen **ecosysteemdiensten** een rol in besluitvorming? (gezondheidsvoordelen, uitzicht, etc.)*
- *Op welke manier wordt groen ingepast? Wat is de motivatie voor groenvoorziening? → Biodiversiteit, toekomstbestendigheid, gebruikswaarde, gezondheid, esthetisch?*
- *Afweging groen/bebouwing → doorberekend in huizenprijzen?*
- *Gebruik van instrumenten als de 3%-regel\* en de landelijke groennorm\*\*?*  
\*Advies van overheid om 3% van nieuwe bouwlocaties voor buitenspeelruimte te reserveren.  
\*\* Landelijke groennorm van 75m<sup>2</sup> per bewoner

*De wijk is een woonwijk waarin ook gezinnen met **kinderen** een belangrijke doelgroep zijn:*

3.3 Hoe zijn (de belangen van) kinderen meegenomen in het planningsproces van de wijk?

- *Invloed van gemeentelijk (speel)beleid op het planningsproces?*
- *Actief of passief geparticipeerd door kinderen? Waarom wel of niet?*
- *Wat zijn specifieke maatregelen die genomen zijn om de wijk kindvriendelijk te maken? (straten/stoepen, groenvoorziening, zachte oevers, spellocaties)*

3.4 Is voor het aanwezige/geplande groen expliciet met (spelende) kinderen rekening gehouden?

- *Zijn de positieve effecten van natuur op kinderen bekend/benoemd in de plannen?*
- *Locatie van groene ruimtes. Waar? Type beheer? Weerbaarheid van beplanting? Diversiteit?*
- *Veiligheid? Toegankelijkheid? Bereikbaarheid? Zelfstandigheid? Zachte oevers?*

**Einde interview. Bedankt voor uw medewerking. Heeft u nog vragen?**

