

# **The influence of boundary spanners on participation within Green Infrastructure projects in the Netherlands**



## **Colophon**

**Title:** The influence of boundary spanners on the participation within Green Infrastructure projects in the Netherlands

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## **Abstract**

Green Infrastructure is an initiative from the European Commission, the definition of Green Infrastructure can be quite diffused. Generally, Green Infrastructure is seen as strategic planning of networks using nature-based solutions for green and blue spaces and provides a wide array of ecosystem services. Green Infrastructure ranges from green roofs and walls, to trees and hedgerows, private gardens, vegetated parks, biofiltration swales, ponds, canals and other water bodies. Within participation five categories are distinguished, *inform, consult, advise, coproduce* and *weigh in*. Four different boundary spanner roles are mentioned, the *fixer, bridger, broker* and *innovator*. The boundary spanner roles can be connected to participation through their activities, such as networking, establishing cross-boundary endeavors and facilitating dialogues and discussions across boundaries. Currently there are multiple programs and platforms in place promoting and stimulating Green Infrastructure in the Netherlands. Nowadays there are high ambitions, however the level of implemented green often turns out lower than determined. Numerous factors play a part in this, most important are financing and topographic illness. Participation differs among citizens and municipalities. Recent development is the active role of the ministry of VWS, which now wants to participate in establishing a green living environment. The COVID-19 pandemic has speed up the urgency for green spaces. While the construction challenge is putting pressure on the development of green areas. The main roles of boundary spanners within planning and implementation are the broker and bridger, establishing cross-boundary networks of actors. Contributing positively to the highest levels of participation and help to overcome the challenge of topographic illness by promoting and encouraging an integrated approach within Green Infrastructure projects.

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# **1. Introduction**

## **1.1 Background**

Green Infrastructure is an initiative from the European Commission in 2013 (European Commission, 2013). It is beneficial for the social, economic and environmental domain and multi-functional (European Commission, 2013; Jones & Somper, 2013). Thus, it brings quite some benefits for society and nature. So, to what extent is Green Infrastructure planned and implemented in the Netherlands? Are there already much developments going on, or which barriers are present that withholds this from happening? Furthermore, to realize Green Infrastructure the participation in the two phases of planning and implementation should be right. Different levels of participation can be present or absent (Edelenbos & Monnikhof, 2014; Schmidt et al., 2013). The question remains how a boundary spanner can play a role in the participation of environmental projects, specifically in Green Infrastructure projects. Does it have a positive effect on the participation and at which level.

### **1.1.1 Societal Relevance**

Participation within planning and implementation of Green Infrastructure projects is important, as Green Infrastructure contributes to a healthier ecosystem within cities (European Commission, 2013) and it can improve the quality of life for inhabitants of citizens (Tillie & van der Heijden, 2016). To be able to respond to social-ecological challenges, there is a request for boundary spanners which could increase the total knowledge and making the connection with the use of science to decision-making and policy-making on the challenge of solving sustainable problems (Goodrich et al., 2020). This research can contribute to the knowledge whether, but foremost on how, a boundary spanner role can advance the participation within the planning and implementation of Green Infrastructure projects. What activities stakeholders can undertake to have higher forms of participation from stakeholders and citizens in these phases.

### **1.1.2 Academic Relevance**

Until now, most empirical research focusses on boundary spanning in the private sector (Williams, 2013) and on the effect it has on trust, collaboration between organizations and the individual organizational performance (van Meerkerk & Edelenbos, 2013). Besides that, a lot of empirical research can be found on boundary spanners and on Green Infrastructure, there is also research about increasing the participation within Green Infrastructure project (Wilker et al., 2016). However, there is no information provided on how boundary spanners can play a role and contribute to increasing the participation within Green Infrastructure projects in the Netherlands.

## **1.2 Research Problem**

The aim of this research is to evaluate which forms of stakeholder participation are present in the planning and implementation of Green Infrastructure projects and to analyze how the role of boundary spanner can contribute to the participation in this, by conducting a qualitative expert study in the field of Green Infrastructure this is being researched. To conduct this research the following research question is considered:

*“How can the role of a boundary spanner positively affect the (stakeholder) participation within the planning processes and implementation of Green Infrastructure projects?”*

The sub-questions which following from the main research question are:

- What are the current planned and implemented Green Infrastructure projects in the Netherlands?
- What is the current level of (stakeholder) participation within the planning and implementing phase of the Green Infrastructure projects?
- Which roles can a boundary spanner play in planning and implementation phase of the Green Infrastructure projects?

### 1.3 Structure of the Thesis

The oncoming chapter defines the theoretical framework, which elaborates on the different concepts used within this thesis. It provides you a lens of the context the thesis is focusing on and to get a better understanding of the concepts. Then, the methods of data collection and data analysis will be discussed in the methodology chapter. The fourth chapter is about the results derived from the literature, policy and media documents and the conducted interviews. The fifth chapter is about which conclusions can be drawn. Finally, the discussion in chapter six and also future research recommendations are given. In the appendices the code tree used for the data analysis can be found.

## **2. Theoretical Framework**

### **2.1 Green Infrastructure**

The definition of Green Infrastructure can be quite diffused (European Commission, 2013). However, Green Infrastructure is generally seen as a tool for strategic planning of natural or semi-natural networks using nature-based solutions for green<sup>1</sup> and blue<sup>2</sup> spaces. Together with other environmental features it provides a wide array of ecosystem services (European Commission, 2013; Garmendia et al., 2016; Jones & Somper, 2013). Such as cleaner air and water, creating varied and new habitats, reducing the demand for energy and alleviating the consequences of climate change by enabling the storage of excess heat and rain. In this way it contributes to local flood prevention, reduces heat stress by evapotranspiration of vegetation and shade of vegetation and the open spaces enabling air flow. Furthermore, by the use green roofs and walls on buildings the thermal performance is increased (Jones & Somper, 2013; RIVM, 2019; Crncevic et al., 2017; Garmendia et al., 2016). Therefore, Green Infrastructure is multi-functional and provided benefits on ecological, economic and social aspects (European Commission, 2013; Jones & Somper, 2013). It contributes to the quality of life and the health of human beings and their overall well-being (RIVM, 2019). Green Infrastructure creates an ecosystem which is needed for the needs of human society (European Commission, 2013; RIVM, 2019). For Green Infrastructure it is of importance that there is coherence and connection between the green spaces, as isolated green spaces are just simply “green” and do not contribute to biodiversity (RVO, 2020).

There are very different forms and scales of Green Infrastructure, it ranges from green roofs and walls, to trees and hedgerows, private gardens, vegetated parks, biofiltration swales, ponds, canals and other water bodies. Or green facades, nesting stones and bat houses (Jones & Somper, 2013; RVO, 2020).

With these ecological, economic and social benefits it increases the livability in urban areas (Dijkshoorn-Dekker et al., 2017). Green Infrastructure should be in rural and urban areas, such that these types of areas can be connected and giving human society attractive places for living and working. Regional and urban development can potentially be strengthened by the investment in Green Infrastructure (European Commission, 2013). Green Infrastructure is a powerful tool for climate adaptation, as it make places less vulnerable to extreme weather conditions (Dijkshoorn-Dekker et al., 2017). Current research points out that Green Infrastructure could contribute substantially to climate adaptation (Jones & Somper, 2013).

### **2.2 Level of participation in the planning and implementation phase**

Within participation you distinguish between stakeholder participation in general and citizen participation especially. Citizens can be one of the stakeholders involved in (Green Infrastructure) projects.

#### *Stakeholder participation*

Stakeholder participation can be defined as a process where organizations, groups and individuals, decide to take an active position and be involved in decision-making or planning

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<sup>1</sup> As in nature/biodiversity related: woods, parks

<sup>2</sup> As in water related: lake, streams, canals

process where they have a stake in and affects them. Subsequently, enabling them to exercise influence on decisions (Reed, 2008; Nastran & Pirnat, 2012).

*Citizen Participation*

Citizen participation can be defined as citizens and the government, or private sector, to have a two-way interaction with each other. In this way citizens have a stake decision-making, and with the goal to make sure that the development outcomes are being improved (Malek & Tahir, 2019). It is about citizens taking part in purposeful activities in relation to the government. The citizens can participate in such governmental activities as a member of a group or as an individual (Langton, 1978).

2.2.1 Levels of participation

Within participation there are different forms and levels present, for this research the Ladder of Edelenbos & Monnikhof (2014) is used. Schmidt et al. (2013) distinguishes four different levels within stakeholder participation, *information, consultation, collaboration and empowerment*. These levels are quite similar to the five levels of citizen participation of Edelenbos & Monnikhof (2014). Therefore, the levels of stakeholder participation are integrated into the Ladder of Edelenbos & Monnikhof and those five levels of participation will be the focus in this study. Which is based on the Ladder of Participation from Arnstein (1969). The Ladder of Arnstein contains non-participation, while in this research it is relevant which level of participation is present and whether there is participation or not. Thus, non-participation can be left out and some categories can be merged as they are quite similar. Therefore, the Ladder of Edelenbos & Monnikhof fits the scope of this research the best.

They define 5 different categories, *inform, consult, advise, coproduce and weigh in*, which all have different characteristics of the degree of participation and thus degree of interaction of governance (Edelenbos & Monnikhof, 2001).

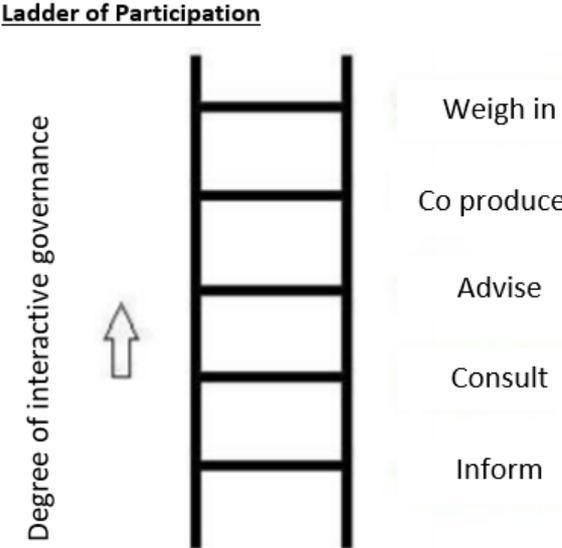


Figure 3. Ladder of Participation from Edelenbos and Monnikhof, 2001 (edited by Author)

### *Inform*

The first and lowest level of participation is called “inform”. At this level the stakeholders will be informed about the policies. Allowing and enabling them to give comments on the policies. The stakeholders have no influence or power in the decision-making process. (Edelenbos & Monnikhof, 2001; Schmidt et al., 2013).

### *Consult*

The second level of participation is “consult”. At this level the stakeholders can give their opinion, and the initiators of the project will probably also ask them about their opinion. Those opinions can be used in the policy-making, however the initiators are not obligated to do so. Often there is still only one-way communication (Edelenbos & Monnikhof, 2001; Schmidt et al., 2013).

### *Advise*

The third level of participation is “advise”. At this level stakeholders themselves can deliver input, address problems and solutions in dialogues. Still the initiator will not be obligated to include it into the final policy-making, however the input of other stakeholders is now expected to have a weigh in the decision-making of the project (Edelenbos & Monnikhof, 2001). At stakeholder participation the level of *advise* is integrated into the level of *consult*, because they are quite similar and the only difference being the weight given to the input.

### *Co-produce*

The fourth level, and thus second highest level, of participation is “co-produce”. At this level the stakeholders, for example a municipality and citizens, jointly make an agenda of the current problems and then jointly search for solutions to those problems. Therefore, also defined as the level of collaboration. Thus, other stakeholders now carry responsibility at this level of participation, however they still are not the ones with the full responsibility. That remains at the initiator, which also means that they can deviate from the input of the other stakeholders. However, now this can only happen when all the adjustments are backed by valid arguments, thus the commitment of the initiators must be higher than at the level of “consulting” (Edelenbos & Monnikhof, 2001).

### *Weigh in*

The fifth and highest level of participation is “weigh in”. At this level the stakeholders do the decision-making and thus carry the highest responsibility at this level of participation. The political managers now tie them to those decisions, as the government now takes on the role of consultant. Thus, they only bring out their advice on the decisions made by the stakeholders (Edelenbos & Monnikhof, 2001).

## 2.3 Boundary spanner roles

Boundary spanners can be defined as individuals who have the role or responsibility that is dedicated to working in collaborative environments. By scanning the environment, they can service, coordinate and facilitate activities and processes of collaboration across institutional and organizational boundaries. Which establishes a flow of information between the organizations and their environment. Creating connections across the boundaries between the different actors and processes (Williams, 2012; van Meerkerk & Edelenbos, 2018). At different levels within the hierarchy of organizations boundary spanning takes place (Williams, 2012).

Edelenbos & van Meerkerk (2018) distinguish four different roles for a boundary spanner, the *fixer*, *bridger*, *broker* and *innovator*. In table 1 an overview of these roles can be found. The research of van den Brink et al. (2019) shows us that a person can take on various boundary roles at the same time. This also depends on the complexity and scale of the project.

#### *Fixer*

The “fixer” are often people are searching to find the fit between the environment and the organization, in order to help a specific person, group or organization. Fixers are seen as *troubleshooters*. They derive the needed information from the environment and then translate it into necessary information for the making regulations and other policies. Using their internal and external linkages to create support and enabling implementation at the higher levels of an organization. As fixers don’t have the authority to develop policies themselves. Fixers are at lower positions within an organization than the other roles (van Meerkerk & Edelenbos, 2018).

#### *Bridger*

A “bridger” is trying to achieve coordination and establish information flows in which outsiders are included. Trying to bridge the structural hole between different clusters (Long et al., 2013). In contrast with a fixer, is the bridger positioned at leadership functions and has a more strategic position within an organization or network. Trying to build partnerships across the boundaries of organizations, communities and institutions and focused on bringing those different actors together. At first they establish the connections between the different actors and organize meetings and conversations. However, after that the bridger gives the responsibility to the actors themselves to organize follow-up dialogues and meetings. Bridgers have a broad range of internal and external contacts, thus have a wider reach than a fixer. However, often the connections are more extensive but not as intensive (Edelenbos & Monnikhof, 2018).

#### *Broker*

A “broker” is quite similar as a bridger. Operating as an intermediary and connecting actors or clusters with each other (Long et al., 2013). The important difference between the bridger and broker is that a broker still has an active role in the dialogues, meetings and negotiations of the actors. Therefore to establish the cooperation and collaboration across boundaries, the broker main task is to create an infrastructure to enable this. Which is something a bridger doesn’t. Understanding the different interests enables them to mediate between the interests. Always looking to find mutual values, interests and motivations to potentially create common ground. They can convince actors and stimulate cooperation. They want to accomplish things, thus ask for serious commitment (Edelenbos & Monnikhof, 2018).

#### *Innovator*

An “innovator” is someone who is engaged in innovation across boundaries of institutions and organizations. They are focused on connecting cross-boundary processes and creating networks and alliances. What distinguishes it from the bridger is the motivation for developing new ideas and their entrepreneurial characterization and less focused on creating collaborations. Innovators scan for windows of opportunity to develop new projects and ideas and by this the innovator tries to connect agendas and issues across boundaries. Besides that, they can persuade and convince others to support their plan (Edelenbos & Monnikhof, 2018).

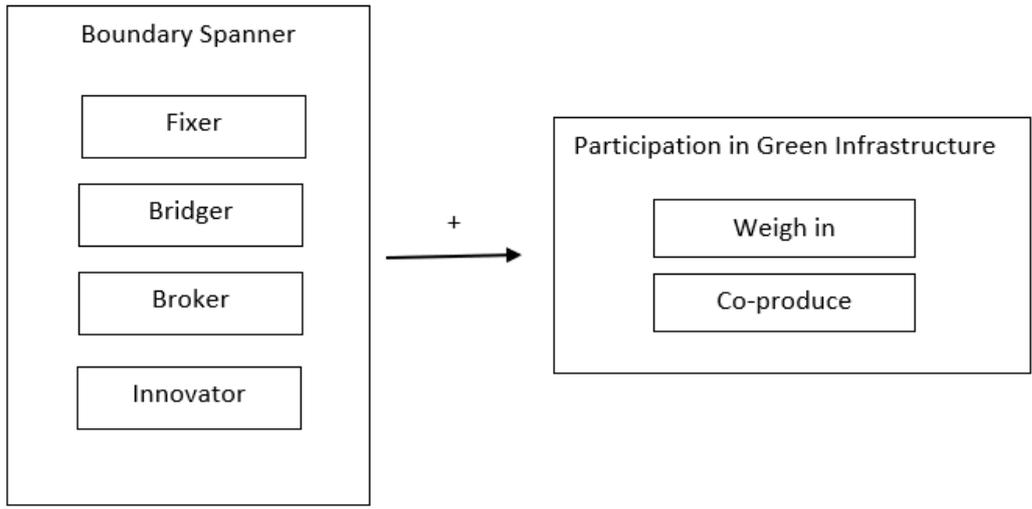
ROLE	CHARACTERISTICS
Fixer	Solving conflict and problems at cross-boundary interactions. Involve in creating alignment between policies and processes across boundaries.
Bridger	Establishing connecting between actors from deviating domains and focusses on boosting cross-boundary interaction and partnerships.
Broker	Connecting actors of different sectors, by being closely involved in organizing and facilitating dialogues, discussions and meeting between the partners.
Innovator	Developing new ideas, products or networks across boundaries. Bend the formal and informal rules and regulations to accomplish things. Can be catalysts by boosting the implementing and innovation within collaboration.

Table 1. An overview of the different boundary spanner roles and their characteristics.

## 2.4 Conceptual Model

The boundary spanner roles can be connected to participation through their activities, such as networking, establishing cross-boundary endeavors and facilitating dialogues and discussion across boundaries. As stated by van Meerkerk & Edelenbos (2018), the networking contributes to making new connections between people, organizations and institutions of different sectors. The creation of these networks fosters the communication and flow of information between the actors, which creates the dialogues and discussions between them. Coordination and collaboration is created across boundaries by this cross-boundary work, thus making boundary spanners of significant importance (Van Meerkerk & Edelenbos, 2018). Among other things, Green Infrastructure is a tool to alleviate the consequences of climate change, issues regarding climate change requires interdisciplinary approach. As with Green Infrastructure you not only address climate change-technical issues, besides that it also has benefits on the social, economic and environmental domain. Thus, an integrated approach is recommended (Stuiver et al., n.d.). As the complexity of these kind of problems regarding climate change and sustainability requires integrating different forms of knowledge and working across the boundaries of different disciplines (Goodrich et al., 2020).

Boundary spanners thus foster the second highest level of stakeholder participation, *co-production*. Furthermore, they also contribute to the level of *weigh in*, because within these networks the actors probably have equal rights and authority. As these networks are established to make sure that by dialogues and discussions they develop a project or plan together. Not being the case that one party determine the outcomes, it is done in coordination and agreement. Within these networks, also citizens are involved since they are also an important stakeholder within Green Infrastructure. By integrating them in the networks and involving them in dialogues and discussions with the other actors, they can get in the planning process and also can steer it.



*Figure 5. Conceptual Model*

## **3. Methodology**

### **3.1 Expert Study**

Since the aim is to gather an overview of the participation in Green Infrastructure, an expert study is conducted. These experts are being selected by searching for the current active organizations, institutions or programs in the field of Green Infrastructure and to see who are the manager functions. Contacting them for conducting interviews, as they probably have a broad view on the participation instead of only about specific projects at certain places. Besides that, these managers could possibly fit in the role of a boundary spanner.

### **3.2 Data Collection**

In this research a combination of research methods has been used. First of all, media and policy documents will be studied and then semi-structured interviews will be conducted. A combination of research methods gives strength to the outcomes of the research (Clifford et al., 2016). The semi-structured interviews were conducted online, as the COVID-19 pandemic is still there thus unnecessary physical activities are not recommended.

#### **3.2.1 Media documents**

Quite some news articles were published on the topic of green projects. And some of the players in the green development field participated in interviews, which were then published online and were used to select possible interviewees.

<b>AUTHOR(S):</b>	<b>TITLE:</b>	<b>DATE OF PUBLICATION:</b>
Snep, R.	Groene stad van de Toekomst	19-02-2021
EenVandaag	Nieuwbouw slurpt groen op in de stad	12-01-2019
Van Iersel, W.	WUR treedt toe tot partnerprogramma van stichting De Groene Stad	13-10-2020
Roskamp, H.	De natuur als inspiratie voor klimaatoplossingen	n.d.
AT5	Landschapsarchitect Maike van Stiphout: 'Natuurinclusief bouwen begint nu'.	22-05-2019

*Table 2. Overview of media documents*

#### **3.2.3 Semi-structured Interviews**

The primary data collection was done by conducting semi-structured interviews. Such that specific questions could be asked to gathered targeted and the necessary information. However, there was also room for in-depth answers and elaborations of the interviewee. Since for this research yes-or-no questions are not relevant, since in-depth information needs to be gathered to understand the dynamics behind participation and boundary spanners in the Green Infrastructure context. As it is important that qualitative data will be gathered. The structure of the interview was safeguarded by an pre-established interview guide, which can be found in appendix 1. The interviews with all 6 interviewees were held in Dutch and conducted via the online platforms.

The respondents could also help with getting in touch with other people of interest, such that the important players in the field could be interviewed. This option of the interviewees recruiting more respondents and linking you to other people, is called the snowball effect. Which is a very effective method to getting in touch with the right people (Valentine, 2005).

NAME INTERVIEWEE	ORGANIZATION	OCCUPATION	DATE	DURATION (in minutes)
Respondent 1 (R1)	Stadsstromen	Independent entrepreneur	21-04-2021	27
Respondent 2 (R2) Joop Spijker	WUR	Researcher	22-04-2021	55
Respondent 3 (R3)	Rijksdienst voor Onderneming	Consultant	26-04-2021	85
Respondent 4 (R4)	RIVM	Project coordinator	28-04-2021	52
Respondent 5 (R5)	Anthos & De Groene Stad	Secretary	29-04-2021	28
Respondent 6 (R6) Harry Boeschoten	Staatsbosbeheer	Program leader	04-05-2021	70

*Table 1. Overview of the interviewees*

### 3.3 Data Analysis

First the conducted interviews were transcribed. The interviews were audio recorded and then transcribed using the “Transcribe” option in “Microsoft Word”. Subsequently, the transcripts were being coded via the software “Atlas.ti”. For the coding deductive code trees, which can be found in appendix 3, were being created to gather the useful information from the interviews. These code trees were based on the information in theoretical framework, wherefore the information was derived by the literature review analyzing the policy documents, media documents and the academic articles. After analyzing the interviews with the codes from the theoretical framework, the gathered information was compared among each other. This information is summarized within several tables, to enable an easy comparison and giving an overview of the analyzed data. Based on this differences and similarities in the data were established and used to answer the sub-questions and eventually the main question of the research.

### 3.4 Ethical Considerations

To take all the ethical aspects in consideration, throughout the research transparency and objectivity were of high importance. Before the interviews, the interviewees received information on the subjects and a consent form regarding privacy, which can be found in appendix 2.

## **4. Results**

In this chapter the findings of the qualitative interviews are being discussed. The findings are sorted around four topics, based upon the main concepts within this research.

### **4.1 Green Infrastructure in the Netherlands**

Currently there are multiple programs and platforms in place promote and stimulating Green Infrastructure in the Netherlands. Such as “De Groene Metropool” of Staatsbosbeheer, which is a program that wants to create a network of green (nature) and blue (water) from the urban areas to the countryside. Letting the network function as an utility and providing everyone access to it (Staatsbosbeheer, n.d.).

“Green Cities” is another program which is initiated by the University of Wageningen, or “DuurzaamDoor” a program developed by RVO, the Netherlands Enterprise Agency. Both programs also promoting Green Infrastructure within or outside urban areas and connecting partners to their mission (WUR, n.d.; DuurzaamDoor, n.d.).

Furthermore, there are collaborative platforms such as “De Groene Stad”, “Samen Klimaatbestendig”, “Atelier GroenBlauw” and so on. These platforms try to continue to find new partners to join their mission for green development in the Netherlands. These platforms bring together different actors and stakeholders from numerous domains and set up collaborations between them (De Groene Stad, n.d.; Samen Klimaatbestendig, n.d.; Atelier GroenBlauw, n.d.).

There are also specific projects like “Operatie Steenbreek”, van Gogh NP and City Deals, which try to develop Green Infrastructure in specific cities, towns or areas (Steenbreek, n.d.; van Gogh national park, n.d.; Agenda Stad, n.d.).

### **4.2 Barriers in planning and implementation**

In the planning and implementation phase of Green Infrastructure, there are several barriers that have to be overcome to guarantee the success of Green Infrastructure. Most of the barriers are at the transition of planning to implementation. As nowadays there are high ambitions for realizing more green, however in the end the level of green in a projects often turns out lower than was determined. Numerous factors play a part in this, like *financing, willingness, topographical illness, nuisance, awareness and complexity*.

NO.	BARRIER	DESCRIPTION	MENTIONED BY
1	Financing	The absence of budget to finance green projects	R1-R6
2	Topographical illness	A mindset where you tend to see everything a separate places instead of networks. Only focusing on the things in your own frame of mind instead of looking beyond the boundaries of your own department.	R1, R2, R3, R6
3	Complexity	Green often fulfill multiple functions, which makes it complex to develop green in such way that it fulfills all these functions and it is managed in the right way without disturbing those functions.	R2
4	Willingness	People, institutions and/or organizations which are aware of the need for green, however are not (yet) willing to participate in the development or management of it.	R2, R3, R4
5	Nuisance	The presence of Oak Processionary larvae and/or ticks, or other plagues, in nature areas, which causes people to have a negative association with green and rather stay inside than go into the nature.	R2, R3
6	Awareness	People, organizations and/or institutions not being aware of the benefits and functions of green spaces.	R2, R3, R4

Table 3. Overview of the barriers

The interviewees mentioned the *topographical illness* and *finance* the most. Apparently, at this moment these two are the most prominent barriers within the planning and implementation of Green Infrastructure, thus will be elaborated on more extensively.

#### *Topographical Illness*

The term “topographical illness” is introduced by Harry Boeschoten of Staatsbosbeheer. According to him we as people and managers tend to view the world in places instead of networks. To achieve a green vision is it necessary to start viewing everything in networks, to make sure that the development takes place where everything will be connected with each other. As for Green Infrastructure it is about creating complete networks of the green areas (R6, 2021). Furthermore, it is about the problem that everything is still seen as separate, the departments, the money jars, the responsibilities (R1; R2; R3; R6, 2021). While an interdisciplinary approach is needed for Green Infrastructure to make sure it can contribute to tackling sustainability challenges. Thus, more integration, communication and foremost *co-production* and *weighing in* between departments is required. Making sure that people, organization and institutions look beyond their own scope and broaden their frame of mind and working area (R3; R6, 2021).

#### *Finance*

The financing of Green Infrastructure remains the biggest barriers for the implementation (R1-R6, 2021). Often not enough money is available according to the respondents. Harry Boeschoten (R6) also states that recreation is poorly financed. There are some small money flows, however this is not enough to finance the high ambitions of green development. To make a real breakthrough in Green Infrastructure extra financing is required. However, finding those extra finance is quite hard. It does help if the politics would address this (R6, 2021). The realization of Green Infrastructure costly quite some money, yet there is the assumption that you can recoup this investment in other functions of a city and thus having a great value for those domains

(Agenda Stad, 2019). While, often green development is seen as an expense, even though it generate money. However, the money or savings are frequently seen back at the money jars of other departments. Thus, these money jars shouldn't be seen separately and then actors get insight of the added value of green (R3, 2021).

#### 4.3 Participation within planning and implementation phase

Nowadays, a lot of initiatives are active to stimulate the participation within the realization of Green Infrastructure, see 4.1. Numerous sectors have become active in the field of Green Infrastructure. Even though a lot of development is taken place in participation, it is still varying how serious this is. As it can be quite challenging to get organizations or groups involved which are not engaged in green development (R3, 2021).

“Nature and green and healthy environment, that is high on everyone's list. But, that is just like world peace. Everyone is in favor of it, however in practice we still take not enough action to accomplish it” - Harry Boeschoten, 2021

##### *Municipalities*

As per municipality is differs quite a bit how important they think green development is and how much they participate in it. Some municipalities expect that it will happen automatically and don't want to be involved in exchanging information and partnerships with other municipalities. While others would like to collaborate and see added value in it (R3, 2021). Furthermore, municipalities can have high ambitions, however the realization doesn't come through. Often this is caused by the lack of finance (R1, 2021). An increasing number of cities does want to development more green, due to the COVID-19 pandemic causing an increased demand for greenery, recreation and walking areas and due to climate change an urge to have better cooling and drainage (R3, 2021).

##### *Government and Politics*

Another development due to the pandemic is the development of the participation of the ministry of VWS. In April 2021, the ministry of VWS wrote, together with the ministry of LNV, a letter to the Chamber (Ministry of VWS, 2021). The COVID-19 pandemic has quite a stake in this, as parks and nature areas were overcrowded quite often because people went to green spaces more frequently now. Which put quite some pressure on the green areas (R3, 2021) and let to more urgency for green areas. It is a breakthrough that VWS now wants to participate in creating a green living environment (R4; R6, 2021). Money can be saved on curative health care, making more money available for preventive health care (R1; R4; R6, 2021). This money can be used for the financing of green development, as a green living environment contributes to preventive health care (R6, 2021). Changing their participation from *information* to *co-production*, as the ministry of VWS now took the step to collaborate with the ministry of LNV to develop this green living environment.

##### *Construction sector*

The construction sector preferably continues to do in the way they are used to, as that way of construction is the most efficient. They don't develop inventions, such as the development of stones with integrated nesting boxes for bats, birds and insects. However, they are willing to use them in construction when asked for. But the market is going through a chance, as it is generating

increasing interest among developers to integrate green into their projects (R3, 2021). From *information* and *consultation* forms of participation towards more often *consultation* and even *co-producing*. As the construction sectors now get in touch with experts of the green sector for consultation on their projects, or even to see whether they can collaborate with an organization such as Staatsbosbeheer (R6, 2021). Besides that, developers should do more in the development of green instead of placing the full responsibility on municipalities (R3, 2021).

Nevertheless, there is a construction challenge going on currently. Which puts extra pressure on the construction of green or integrating green into projects. Green has now lower priority, the highest priority is to build the required number of houses in the Netherlands (R3; R6, 2021).

### *Citizens*

There is much variation among citizens whether they are involved in green development (R1; R3, 2021). COVID-19 made them -according to Harry Boeschoten more aware. Some citizens are actively engaged and also take initiative and get in touch with the municipality on how they could develop green (R3, 2021). In the neighborhood EVA-Lanxmeer in Culemborg the citizens are involved in the highest form of participation, *weigh in/co-produce*. As the citizens were involved in the development of the neighborhood and the management of the greenery fall largely under the self-management of the citizens (R2, 2021; Kruit & Veer, 2011). Furthermore, it is important that the citizens get involved in the planning process, engaging them in dialogues, such that their wishes and need can be integrated in the project (R3, 2021).

### *Legislation*

Currently, green areas are not protected by any legislation (R4, 2021). Therefore, within projects the established green areas in the planning process gets smaller and smaller during the implementation, as priority is given to space for building houses (R3, 2021). Or green will only be a part within the last steps of the planning process, thus, Harry Boeschoten quoting a developer: "Green is where no houses need to be build".

Therefore, suggestions and discussion are going on about introducing a standard of the minimal percentage green a project should include. Which would apply to in all living areas and industry sites. Or a recent development of several developers in collaboration with the "Vogelbescherming", is a manifest on making nature-inclusive construction part of the Dutch Building Regulations. The Dutch Building Regulations applies to everyone, such that everyone is mandatory to build in a nature-inclusive way (R6, 2021). Thus, also making Green Infrastructure development more obligatory.

## 4.4 The role of the boundary spanner in participation

Activities and characteristics mentioned which fits the most with the role of the bridger, broker or innovator. Among the interviewees the role of the fixer was not mentioned and they also did not characterize themselves as a fixer. Often when someone has a boundary spanner role, the person is positioned in a higher function in its organization than a fixer would.

The most common role is the role of broker and the bridger. The role of the innovator is to some extent present, as respondent 4 contributed in the development of the tool, "De Groene Batenplanner". Which helps in given insight into the benefits of green development across the different sectors.

### *Broker*

Three of interviewed are undertaking activities which connect them to the role of a broker. Respondent 1 is continuously busy with connecting new partners to their mission at “Samen Klimaatbestendig”, together looking into creating new initiatives. Thus, respondent 1 is contributing as boundary spanner at the highest levels of stakeholder and citizen participation. Since every stakeholder, thus also citizens, can join the network and collaborate and decide on all sort of initiatives. Respondent 2 itself doesn’t fit in one of the boundary spanner roles, however it does mention the role of the broker. As the respondent does describe the importance of someone laying on top of the network like spider and bringing the groups of the network closer together. Establishing communication among departments which would otherwise not get in touch with each other. Then processes can be aligned and departments start to work together (R2, 2021). Respondent 5 and 6 organize events, dialogues and give readings to connect partners to each other. Having a committed role in the establishment of networks, thus best fit within the frame of the broker.

By creating this networks by connecting partners, the broker facilitates and boosts the highest forms, *co-production* and *weighing in*, of participation within Green Infrastructure.

### *Bridger*

Two interviewees can be put within the frame of the bridger. Respondent 4 quite similarly does facilitates the creating of networks, however it doesn’t stay as committed and involved as respondent 5 and 6 are. Respondent 4 organizes the network and first meetings, however after that the partners need to undertake further action. Respondent 1 has the role of the broker with the function at “Samen Klimaatbestendig”, as there is stays involved in the network. But, with its functions within City Deals, then the partnerships are temporary. Thus, when the partnership comes to an end the involved actors need to take further steps and are not supervised anymore.

Likewise, the bridge creates this networks of partners facilitating and boosting the highest forms of participation.

<b>ROLE:</b>	<b>CONTRIBUTES TO PARTICIPATION IN:</b>	<b>MENTIONED/FULFILLED BY:</b>
Fixer	Consult, Advise	-
Bridger	Co-produce, Weigh In	R1, R3
Broker	Co-produce, Weigh In	R1, R2, R5, R6
Innovator	Consult, Co-produce	R4

*Table 4. Boundary spanner roles in relation to the different forms of participation*

## **5. Conclusions**

Analyzing the results discussed in chapter 4 brings up the several conclusions. There is a lot to do about Green Infrastructure in the Netherlands. Numerous initiatives addressing the concept and initializing plans are present. Finance and Topographical Illness, and to a lesser degree awareness and willingness, are the biggest barriers for planning and implementation. Based on the findings, it is difficult to come to conclusions on the topic of participation. However, municipalities, politics, citizens and the lack of legislation do play a role at several levels of participation within the planning and implementation of Green Infrastructure. Within politics, especially the ministries of LNV and VWS are involved in the participation. Within participation the role of the bridger and broker are the most present. While the role of the fixer is not mentioned. Looking more closely to the role of the boundary spanners in participation. The finding show that both the bridger as the broker are very active in the creation of networks. Within these networks the boundary spanners connect actors or different departments together, or even departments within an organization or municipality. Departments which otherwise would not communicate and collaborate with each other. These networks and the roles of the bridger and broker contribute to the highest level of participation. Establishing these networks and boosting these highest forms of participation, then can lead to the different sectors and departments becoming connected with each other and be encouraged to come up with interdisciplinary solutions.

The results show that boundary spanners can have an important role in developing and realizing of Green Infrastructure. Explicitly recognizing and implementing this role can attribute to the development of Green Infrastructure, as nowadays organizations and institutions seem to be reluctant in hiring employees in the function of a boundary spanner. This role of the boundary spanner is still quite new and thus employers don't hire them in the first place,. A transition to a working environment more open for a more integrative and collaborative within organizations and institutions is needed, being less focused on the separate domains and departments. Boundary spanners can be of help and importance in creating such a working environment.

## **6. Discussion**

In this research the role of the *bridger* and *broker* were the main roles of boundary spanners present and useful for the highest forms of participation in Green Infrastructure projects. However, it could be the case that in another expert study the other boundary spanners are mentioned more often. As in this expert study no interviews are conducted with actors who fulfill for example, the role of a constructor, developer, landscape architect or officer active at the ministry of LNV. There is a possibility that they consider the roles of the fixer and innovator more important or present. Therefore, it is a too broad generalization to say with full certainty that the *bridger* and *broker* are always the main roles within the participation of Green Infrastructure. Moreover, it tends to be that those two roles are the most present and of importance, however it could easily be that in other cases or projects this is not the case. As in this research there is only focused on the four roles van Meerkerk & Edelenbos (2018) describe, while in other literature many more roles are discussed. Thus, it could easily be that some other roles which are not discussed are very important and present.

Recommendations for future research would be to analyze further whether introduction of a norm would positively contribute to the participation within Green Infrastructure projects. To investigate whether and to which extent this is the case, or if other factors are needed to guarantee a minimal surface of green areas in new area developments. Furthermore, to investigate further into why a boundary spanner is not highly present as the role is very beneficial and on how the boundary spanner role can be more present in the working environment. Besides that, analyze how the roles of the boundary spanner then can successfully be recognized and established in the working environment of all relevant sectors.

Reflecting on the research process, the theoretical framework provided a good basis for the interview guide and the coding in the data analysis. Despite the COVID-19 pandemic, it was rather easy to find interviewees and these were also very enthusiastic about contributing to the research and sharing unfiltered information. Providing much information for answering the sub-questions and main research question of this research. Sometimes it was a bit challenging that the concept of “Boundary Spanner” is rather new, thus not everyone was familiar with it.

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# Appendix 1: Interview Guide

## **Deel 1: Groene Infrastructuur – Algemeen**

- Wat verstaat u onder Groene Infrastructuur?
- Vindt u dat er veel duidelijkheid bestaat over Groene Infrastructuur?
  - o En is er ook veel consensus binnen uw sector?
  - o En tussen verschillende sectoren?

## **Deel 2: Groene Infrastructuur – Rol**

- Kunt u beschrijven wat uw specifieke rol is in Groene Infrastructuur?
- Kunt u voorbeelden geven van succesvolle projecten waarbij u was betrokken?
  - o Welke factoren hadden daarin een grote rol?
- Kunt u ook voorbeelden geven van projecten die niet van de grond zijn gekomen?
  - o Welke barrières speelden hierin een grote rol?

## **Deel 3: Groene Infrastructuur – Participatie**

- Wat vindt u van de huidige participatie in Groene Infrastructuur projecten, als u kijkt naar de planning en realisatie daarvan?
- Er wordt gezegd dat er veel ambitie is, maar dat de uitvoering achterblijft. Bent u het daarmee eens of niet, en kunt u uw antwoord toelichten?
- Vindt u dat sommige partijen nu te weinig betrokken zijn?
  - o Kunt u voorbeelden geven?
- Welke partijen zijn juist heel erg aanwezig in de participatie?
- En hoe is het belang van burgerparticipatie?
- Is de urgentie en daarmee de participatie toegenomen door de COVID-19 pandemie?
- En hoe zit dat bij de bouwopgave?

## **Deel 4: Groene Infrastructuur – Boundary Spanner**

- Denkt u dat iemand die werkt tussen de domeinen en domeinen overschrijft, kan helpen in het bevorderen van de participatie?
- Bent u zelf ook bezig met activiteiten, zoals netwerken en samenwerkingsverbanden creëren, die bij zo'n rol horen?

## **Appendix 2: Consent Form**

### **Overeenkomst van deelname**

Onderzoeksproject: Bachelor scriptie Spatial Planning & Design

Universiteit: Rijksuniversiteit Groningen

Titel: "The potential role of the boundary spanner for participation within Green Infrastructure projects"

Beste meneer/mevrouw,

Bedankt dat u mee wilt werken aan dit interview en daarmee mij helpt in mijn onderzoek naar de rol die een boundary spanner kan spelen in het positief beïnvloeden van de deelname in de planning- en realisatiefase van Groene Infrastructuur projecten in Nederland. Hierbij wil ik graag informeren over het verloop van het interview en de privacy afspraken.

Door de huidige COVID-19 pandemie zal dit interview online plaatsvinden. Het interview zal circa een uur duren. Tijdens het interview kunt u altijd aangeven wanneer u dient te willen stoppen of een bepaalde vraag niet wil beantwoorden. Het interview zal van open structuur zijn, waardoor u altijd toelichting kan geven bij uw antwoorden en ik ook zoveel mogelijk gedetailleerde informatie kan verzamelen.

Het interview zal met een audiorecorder worden opgenomen, zodat het vervolgens kan worden getranscribeerd. U heeft altijd de mogelijkheid om dit transcript opgestuurd te krijgen en te controleren, en waar nodig aan te passen op feitelijke onjuistheden. Dit transcript zal voor mijn onderzoek gebruikt worden om extra informatie te verkrijgen en deze te analyseren zodat mijn onderzoeksvraag beantwoord kan worden. De informatie die wordt verkregen tijdens het interview zal vertrouwelijk worden behandeld. De gegevens, waaronder het transcript, zullen wel gedeeld worden met mijn scriptiebegeleider dr. Stefan Verweij en zal de scriptie in het archief van de Rijksuniversiteit Groningen worden opgenomen. Nadat het onderzoek is afgerond, zal de audio-opname verwijderd worden. Het zal dus niet voor andere doeleinden worden gebruikt. Daarnaast heeft u altijd de mogelijkheid om anoniem te blijven indien u dit wenselijk acht.

Met het ondertekenen van deze overeenkomst verklaar ik dat:

- Ik geheel vrijwillig deelneem aan dit interview
- Ik altijd het recht heb om bepaalde vragen niet te beantwoorden, of te stoppen met het interview als ik daar om vraag
- Ik begrijp waar het onderzoek over gaat
- Ik begrijp dat alle informatie vertrouwelijk wordt behandeld en de informatie gebruikt mag worden in het onderzoek en publicaties daarvan
- Ik begrijp dat ik na het interview het transcript kan opvragen en het dan alleen kan aanpassen op feitelijke onjuistheden

Als u nog verder vragen heeft, kunt u altijd contact opnemen met:

Diede Osinga (student)

of

dr. Stefan Verweij (begeleider)

Indien u akkoord gaat met de bovenstaande informatie, graag het volgende invullen:

Ik geef toestemming tot het maken van een audio-opname van het interview JA / NEE

Ik wens anoniem te blijven in het onderzoek JA / NEE

**Indien JA:**

Ik wil graag met een eigen gekozen pseudoniem worden genoemd JA / NEE  
(Bijvoorbeeld: 'respondent 1')

Zo ja: .....

Ik wens een transcript van het interview te ontvangen om te kunnen controleren op JA / NEE  
feitelijke onjuistheden

Naam deelnemer interview.....

Datum.....

Email.....

Handtekening.....

### Appendix 3: Code Trees

