Is a blue green infrastructure the solution for solving social issues?

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Introduction

The liveability in the Bijlmer is below average (Ministerie van Binnenlandse Zaken en Koninkrijkrelaties, 2018b) and the residents of the Bijlmer often do not feel safe in the neighbourhood and miss the greenery (Blom et al., 2020). This is contradictory to the actual presence of greenery in the Bijlmer. The Nelson Mandela park is located in the Bijlmer and the apartment blocks are all surrounded by trees and grass. This is however not perceived like this by the residents and they miss the qualitative green in the neighbourhood (Blom et al., 2020). The unsafe feeling is usually perceived in public spaces by the residents and people do not want to walk outside at night. It is proven that blue and green spaces have a positive influence of the emotional state of people, the social interaction between people and increase the mood of people (Vaeztavakoli et al., 2018). The main design question is therefore: How could a blue green infrastructure be implemented in 80s urban design and what are the effects on a social, sustainable and safety level?

Next to the effects of blue green infrastructure, the discussion of new heritage will be addressed. The research focuses on determining the values and qualities of 70s and 80s architecture and use them as a base for the design. The research will be done by exploring the perspectives of the government, users, owners, makers and academics. These perspectives will all be taken into account by assessing values to the possibly new heritage. To determine the values and qualities the central design question is: how could renovation, replacement and/or densification strengthen the qualities and help solving current problems without compromising heritage values and identities, where these exist?

After the pilot research in Almere, the research in Amsterdam Zuid Oost will be executed. The following locations in Amsterdam Zuid Oost will be studied: Bijlmerplein, Heesterveld and Hoptille. After the analysis of the H-buurt, several scenarios will be created for the entire H-buurt. These scenarios are going to be tested according to an impact assessment. The impacts and risks of each scenario will then become clear. A toolkit with a range of scenarios will be created and used for further design. The scenario that will be elaborated in the design project will be the blue/green infrastructure. After literature research and analysis of the project location and buildings, a design concept will be created. The theme blue/green infrastructure in 80s urban design will be implemented in the design. Sustainability, greening and mix of functions will be important themes in the design process. It will be integrated on a urban and building scale.

Figure 1: Bijlmerplein


Figure 2: Heesterveld


Figure 3: Hoptille

Frame of reference

There is already quite some literature about the topic blue-green infrastructure. One of the most important conclusions is that blue and green spaces have a positive effect of the quality of cities on different levels (Vaeztavakoli et al., 2018). Blue and green spaces improve for example the emotional state of people and it reduces their stress levels (Lee et al., 2015). It also contributes to the social interactions between people and blue and green spaces create pleasant collective memories about this presence of nature (Rostami et al., 2015). Green spaces can also have a positive influence on increasing the mood of people to fight poverty and life problems, this is mostly the case in populated urban areas (Kuo, 2001). This could have a positive influence on the safety problems in the H-buurt. There is a lot of evidence in literature of the positive effect of greenery on physical, mental and social health (Vaeztavakoli et al., 2018). There is however not that much information on the effects of blue spaces. There are three mental health advantages of blue spaces mentioned in literature. The first one is that blue spaces are the best option to rest and relax for people. Blue spaces, like rivers and fountains, were proven to be the best to cover traffic noises. The last advantage of blue spaces is that they can moderate the weather, especially during hot summer days.

Vaeztavakoli et al (2018) did a case study about the Niasarm Canal in Isfahan, Iran. They focused on the effects of canals on human health. There were a few important conclusions, the first one was that the participants of the survey mentioned that the canal helped to get more physical activity in the blue and green spaces, this was due to the fresh air and the relaxed atmosphere. The second conclusion was that canal added to the feeling of calmness, rehabilitation and concentration. People also saw the canal as a central point for their social life, they meet their friends and family alongside the canal. There were also some negative aspects, the canal goes for example fully dry in the summer. The mosquitos are also a problem in the area, this can be solved by municipal spraying. All these aspects can be used in the blue/green design.

Andreucci et al (2019) also describe the importance of an urban green blue infrastructure for the mental health and wellbeing. They say that the urban built environment has an influence on social health and wellbeing. This is particularly applicable for the elderly (Finlay et al., 2015). Next to this, they stress the fact that human exposure to blue green infrastructure increases the physical activity, mental health and it decreases crime, violence and aggression. They also mention examples of blue green infrastructure: urban forests; parks; domestic gardens; green roofs and walls; community orchards; parklets and sidewalk gardens; wetlands; rivers; rivers; ponds; and creeks. These elements can all be used in my design project. The elements make sure the water quantity and quality is regulated, it also controls the surface runoffs, protect the biodiversity, filter pollutants, improves the quality of the air and it is vital to the food chain (Ren et al., 2017).

Well & Ludwig (2019) discuss four case studies in their paper. They describe the urban heat island effect as a serious problem in cities, this effect results in increasing energy demand, air conditioning costs, air pollution, heat related illness and mortality. The urban heat island effect is increased by climate change. Climate change also leads to periods of extreme heat and drought. This has a negative effect on energy consumption and health. The solution for this problem is integrating natural elements in the cities, to reduce the urban heat island effect and the impact of the extreme weather.

After stating this problem statement, they look into the four case studies. The high line in New York is the first one, where an old railway is transformed into a green infrastructure. They replanted the plants that had grown themselves over the years. The surrounding buildings are not included in the concept, so this could be improved. The second project is located in Berlin, Potsdamer Platz, and focused on blue infrastructure. The rainwater is reused for flushing toilets and irrigating the green areas. The green roofs collect and evaporate precipitation. The third case study is Bosco Verticale in Milan, which focuses on sustainable housing. The ground water is reused for irrigating the plants and heat pumps, the rainwater is not integrated in this project. The building does generate a large amount of waste water instead of reducing the load on the central system. The last project is again located in Berlin, this case study has an innovative water concept. The rainwater is collected in a pond, this is used for irrigation of the plants, flushing of the toilets and using it for food production. All these components and lessons learned from the case studies can be taken into account in the design project.

Bogar & Beyer (2015) did a systematic review on green space, violence and crime. There is already some literature about the link between green spaces and reductions in crime, violence and aggression (Branas et al., 2011; Garvin et al., 2013). They describe there is a positive as well as a negative relationship between green spaces, violence and crime. Urban green spaces are for example occupied by gangs and are used to sell drug and illegal dumping. Green spaces can also strengthen discrimination and hostility between ethnically homogenous neighborhoods. Residents can also fear the urban green spaces, because the vegetation can hide criminals. This can lead to a whole community avoiding the urban green spaces. There are also studies who prove the positive effect of green spaces. Branas et al (2011), Garvin et al (2013) and Kuo & Sullivan (2001) all did research and found that green spaces have a direct effect on decreasing crime and violence. The conclusion of Bogar & Beyer (2015) is that there are too few studies done about the relation between green spaces, violence and crime. There is also a lot of conflicting evidence on this relation. This could be an interesting concept to further investigate.

These articles and case studies are used to define what is still missing in the current literature. There is already a lot of prove and information on the positive effect of green areas. The benefits of implementing blue infrastructure is less investigated. The case studies also showed that blue and green infrastructures are not yet fully integrated yet, in every project there is a clear blue or green approach. In this design project, the focus will be on implementing a blue green infrastructure in 80s architecture. A design with both an integrated blue and green infrastructure will be investigated. It will be tested how the design can be integrated in the public space and how it can be combined with the existing urban green structures. The relation between crime, violence and greenery is also not yet investigated thoroughly. This will also be integrated in the design, crime is a problem in the H-buurt according to our research.

Problem statement

The liveability in Heesterveld is very insufficient according to the 'Leefbaarometer' (Ministerie van Binnenlandse Zaken en Koninkrijkrelaties, 2018b). The neighbourhood scores very poorly on the indicators dwellings, residents, safety and physical environment. The only positive indicator is the amenities. This score is based on the average of cities in the Netherlands. The deviation of Heesterveld, in comparison to the average, is -0,81. The indicators residents, safety and physical environment score the worst on this liveability scale. Aspects related to the residents indicator are for example elderly, single family households and file activity ratio (Ministerie van Binnenlandse Zaken en Koninkrijkrelaties, 2018a). Burglaries, robberies and harassment are a few aspect of the safety indicator. The insufficient score on the safety indicator can also be related to the opinions of the residents. During the interviews with residents and visitors of Heesterveld, some people mentioned the unsafe feeling in Heesterveld (Blom et al., 2020). A 18 year old female mentioned the following:

"I visit Heesterveld the least, because I feel less safe due to the closed building blocks."

Lastly, the number of monuments, greenery and water in the neighbourhood are examples of the physical environment indicator.

Figure 4: Leefbaarheidssituatie (Ministerie van Binnenlandse Zaken en Koninkrijkrelaties, 2018)

These themes were also very important to the residents from the H-buurt (Blom et al., 2020). Three main themes from the interviews with the residents were the aesthetic, ecological and social theme. The opinion of the aesthetic aspects in Heesterveld differs among the users, some really love the murals and coloured facades and some users think the colours are too bright and too busy. One of the interviews, a 31 year old male, mentioned the following:

"I like this area a lot because it is a colourful and a beautiful neighbourhood."

An elderly man expressed a negative reaction towards the colours:

"The colours of these buildings are not necessary, it doesn't have to become a Rietveld."

Some residents miss amenities in their neighbourhood, a 24 year old resident mentioned:

"You cannot party in the neighbourhood, you have to go to the city centre for that, only shady café places."

Oma Ietje is however appreciated by the residents of Heesterveld and this café is mentioned in a positive way by almost all the residents. The creative community is also an aspect that should definitely stay in the neighbourhood. A quote from one of the interviewees with detailed information about the problems in Heesterveld is:

"I suppose Heesterveld as a pleasant area. There are several attributes that I consider negative, these are the neglected flats and the neglected parking garage. The inside of the block has too busy colours which doesn't seem to be restful. There are too many bicycles and too little greenery."

According to all stakeholders, there were some more themes that were of importance for Heesterveld. The following themes could be improved according to the makers, government, owners and users: diversity in public space; monofunctionally; unsafe feeling; lack of qualitative greenery; nuisance of garbage unintended use of public space; and creating a hotspot in the area.

This design will focus on the use of the public space, which also includes greenery, a safe feeling and diversity. This design will also address the monofunctionally in the neighbourhood.

A more general problem is that architecture of the 70s and 80s is relatively young and it is not often seen as heritage. Heritage is usually only assigned to historic buildings that are already really old and exist for a long time. Young buildings, like the buildings in the H-buurt, are not seen as new nor as old. They are neglected when looking at heritage. The problem with the lack of housing is however still very present in the Netherlands, there have to be built 1 million houses before 2030. It is however not necessarily needed to build new houses, the opportunity of using existing buildings is a great alternative. These existing houses should however be upgraded, because there are probably social, sustainable and demographic problems. In this project, these problems will also be tackled in Heesterveld.

Research questions

The central design question of the studio is: how could renovation, replacement and/or densification strengthen the qualities and help solving current problems without compromising heritage values and identities, where these exist?

There are two parts within the research: the collective research and the individual research and design. The research question for the collective research is: What are the heritage values and attributes of the residential neighbourhood and buildings in the H-Buurt, Amsterdam Zuid-Oost, as perceived by its residents, the government, the makers and academics and the owners?" To answer this question, a set of sub questions is needed. The first set of sub questions is: What do the users (insiders/outsiders) value in the H-buurt?, What does the government value in the H-buurt?, What do the owners value in the H-buurt? and What do the makers and academics value in the H-buurt? It is important to determine if the project location is heritage or whether it has value. This information determines which parts are valuable.

For the individual research and design, other research questions are posed. These are related to the problem statement of this research. Sustainability, greening and mix of functions in Heesterveld are important themes in the whole process. These themes are mentioned by the stakeholders (Blom et al., 2020) and the poor liveability score of Heesterveld (Ministerie van Binnenlandse Zaken en Koninkrijkrelaties, 2018b). The main research question is therefore: How could a blue green infrastructure be implemented in 80s architecture and what are the effects on a social, sustainable and safety level?

To be able to answer the main question, a set of sub questions is established. The sub questions are: What is know about the positive effects of blue green infrastructure on the liveability?; What are successful examples of blue green infrastructure?; What is the effect of a blue green infrastructure on social, sustainable and safety aspects?; How to implement a sustainable solution while preserving the current values?; How to prevent gentrification, while improving the current situation?; and What is the effect on social and safety level of transforming mono functionality into multi functionality?

Methodology

The research starts with a collective part, which was done in the first phase of the project. This collective research consists of a pilot research in Almere Haven and the research in the H-buurt. After this collective analysis of the two neighbourhoods, research by design is conducted. Different scenarios are tested and finally a design strategy is chosen and elaborated. This scenario is then transformed into a design, after conducting literature research and analysis.

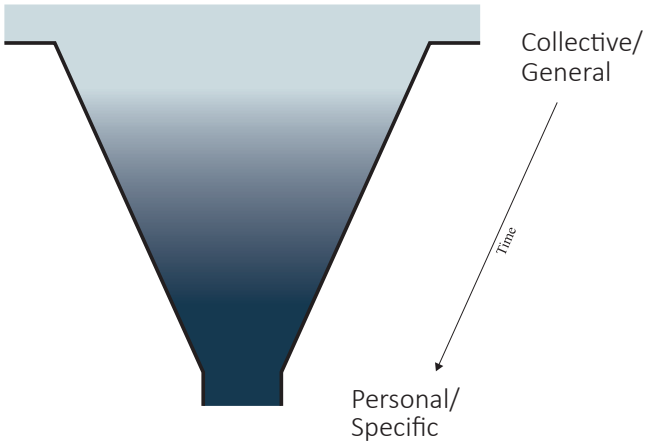

Figure 5: structure research

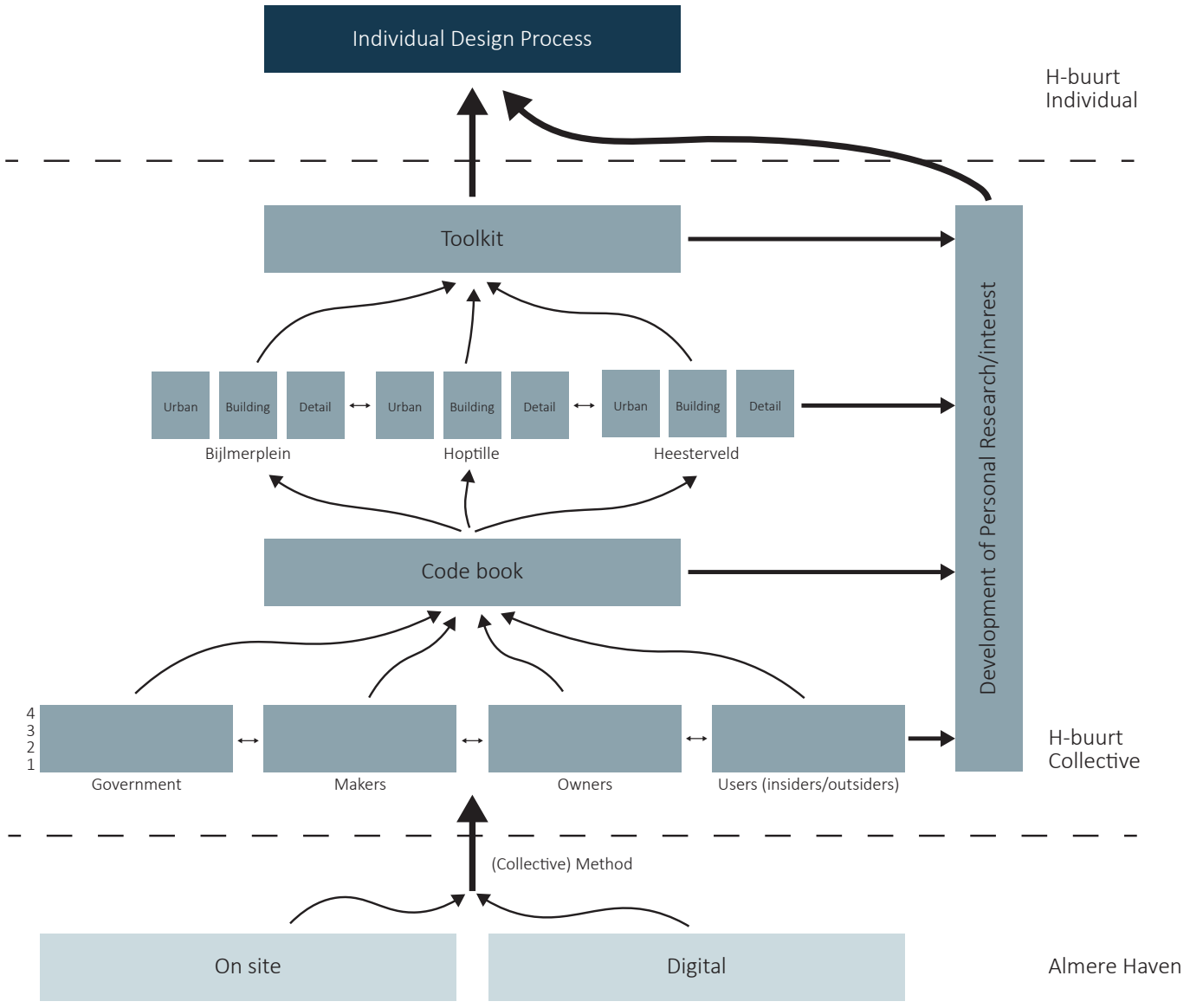

Figure 6: research proces

Almere-Haven

The pilot research in Almere Haven is used as an experiment, before diving into the research in the H buurt. During this experiment, the goal is to test and adapt the research methods and to extract the attributes and values from the opinions of residents. The pilot research consists of two approaches, a media one and an on-site one. Both methods explore residents' experiences, memories, opinions and perceptions, as well as opinions on social media. The first method is using media, like Facebook, Flickr, Instagram and books about the vision. The second method involved different kind of interviews: open conversation (A); drawings (B); pictures (C); and a questionnaire (D). These methods worked quite well and were used in the H-buurt as well.

In Almere, people on social media really appreciated the greenery and parks in the area and they all posted photos about it. They used the green environment for relaxing, walking the dog and practicing sports. Interviewees also mentioned the appreciation for the greenery. However in the centre of Almere Haven itself there is not a lot of greenery.

H-buurt

To start the H-buurt research, the group divided into four smaller groups. Each was appointed a Stakeholder according Howard (2003) in order to cover different perspectives in the area. The division was as followed: Insiders/Outsiders, Owners, Academics/Makers, and Government.

A collective strategy and method were developed to create comparable results across all groups. The strategy follows a weekly schedule with the same focus for each group per week. Within this, different methods can be used by the groups to achieve this focus. The first week was for exploration of the research field and get a grip on the opinions of stakeholders. This information was then used to create a photo set, which was used in week 2 by all groups, the photo elicitation (Harper, 2002). Seven photos were selected and shown to all interviewees along with a collective question. These answers were then compared in week three. The fourth week was used to gather more in-depth information and/or the processing of the data.

The method for processing of the data was equal for all groups. The program Atlas.it was used to code the data to be analyzed later on. For coding, an inductive strategy is chosen. This approach requires reading the data and identifying codes throughout the process. It is not clear which codes will be included in the final code book beforehand. This ensures that the codes reflect the issues of importance from the interviewees, not the preconceived notions of the researchers (Hennink, 2020). The specific method per stakeholder is described below.

Government

The government group focused on the perspective of the government on the H-Buurt. This includes the municipality, the national service for cultural heritage, but also organizers on the neighbourhood scale.

The first part of this research is desk research. This provides an overview of the area, in the form of demographics and plans & policies. The demographics include topics such as income, population or migration background. Through analysis of these statistics we can identify events and societal change (passive influences) and policy change (active influences). Added to that, an overview of government plans tells where challenges are in the area. A challenge represents a value that could or should be present, but is not yet.

Second, interviewing representatives from different government agencies contextualizes the desk research. The interviews are structured around a fixed set of photos. The interviews are transcribed and coded, so that can be further analysed and compared.

The lack of qualitative greenery is seen as a maintenance problem by the municipality. The budget for maintaining greenery was cut. The government now realised that this led to large, open spaces, where people do not feel at ease.

Makers

The maker/academic group did research upon the makers and academics according to the table of Howard (2003). Makers are original architects, urban planners and re-designers. Academics involve specialists from architectural heritage, urban and housing fields.

The first part consisted of site visiting, studying literature and other secondary resources to get familiar with the architecture and context of the Bijlmer initial idea till now. As a result, summarized literature and a timeline provide a comprehensive overview. The following step was preparing and having interviews with the architects and academics themselves to find out attributes and values of each of them. Therefore a set of pictures was shown to each of the interviewees to react on, followed by more in-depth questions about their project/specialty.

The outcome of these interviews have been turned into transcripts. These transcripts form the base to find out the values and attributes, hinders and mismatches with the help of qualitative and quantitative coding. According to the makers greenery is important for housing, but cosmic greenery became anonymous green without articulation of design and scale. Social elements, like benches, should be places in the green to enhance communal sense.

Owners

The owner group focused on the real estate property within the five neighbourhoods of H-Buurt. The first steps were taken through background research to get an understanding of the topic, the scope and its importance. Overview maps and a timeline of the history of Housing Associations have been created through online research, literature and mapping.

The gained knowledge of week one enabled the group to set interviews with the stakeholders themselves. Interviewees have been asked to bring photos of the neighbourhood and explain their personal relation to them. This was followed by 6 collectively picked photos of different areas within the H-Buurt. It was important to gather information from diverse sources, in the interviewees case with different professional- and even personal- backgrounds to get a wide range of reactions, opinions and therefore values. A physical narrative walk with some of the interviewees should back those values up.

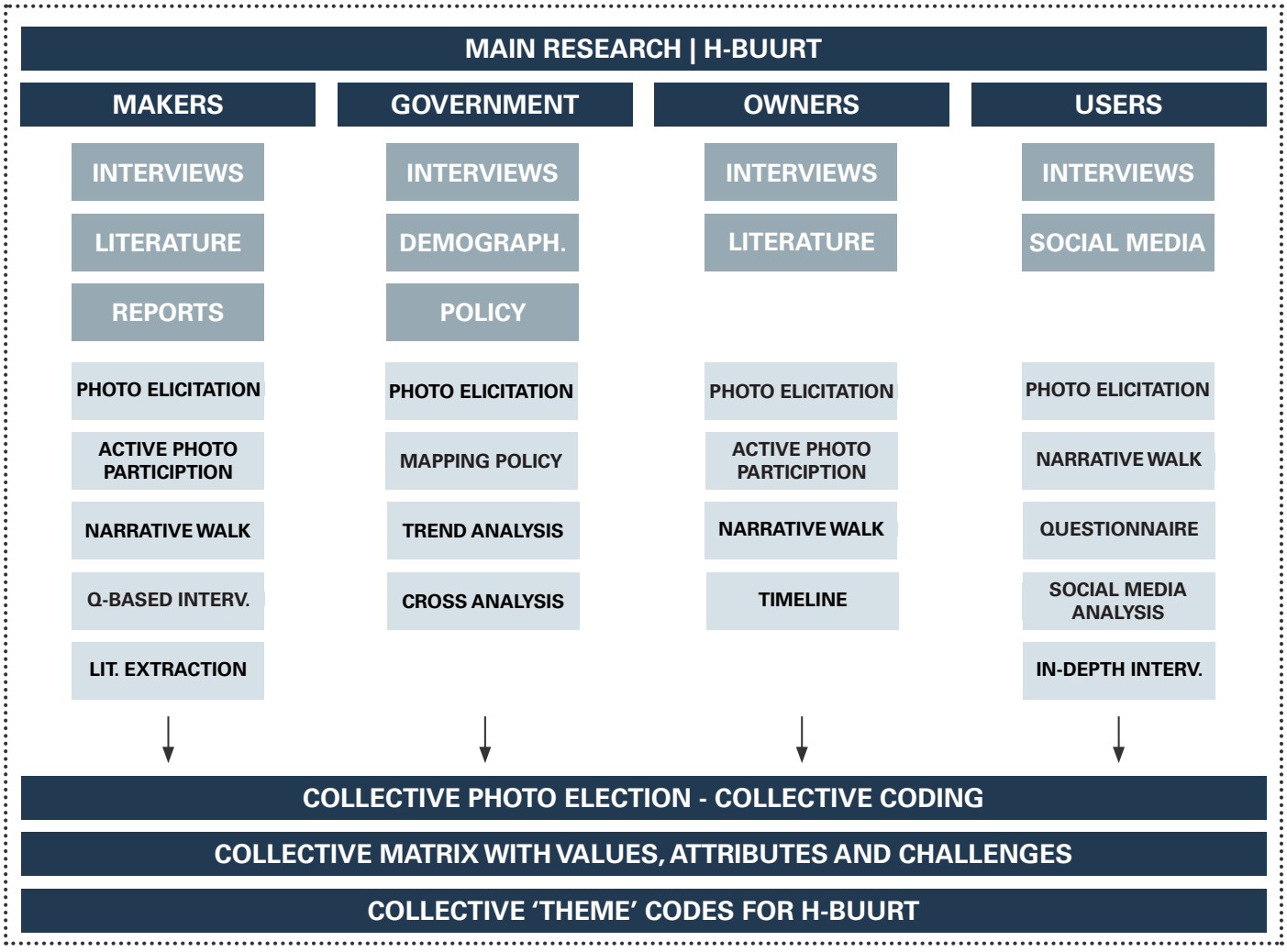

Figure 7: structure H-buurt research

During the walk, photos will be taken of important elements to the interviewee and give more insight into their perspective (Gabrielle, 2005). Finally, those values - in the form of transcripts - were coded to be of further use in research.

Owners highly valued the presence of greenery in general, but they have been very critical when it comes to the responsibility of the maintenance of the greenery. They have seen this as a lack of action and vision. For them, this lack of vision resulted in green areas without any usage, due to safety issues and a general lack of quality. They mentioned that it seems that the green spaces are not tailored for current users and their needs.

Users (Insiders/Outsiders)

The users group focused on the perspective of the people who live or work in the H-buurt or visit the H-buurt. The aim is to understand the attributes current users value.

For the first source, interviews, four types of interviews were conducted. In the first week a basic set of questions was used to get a general idea of the opinions about the area. This information was used to create a more detailed set of questions and a collective set of photos, which were used for the online questionnaire in week two as well as the in-depth interviews. This photoset was simultaneously used for the street interviews.

For the second source, social media, information was gathered on Flickr, Instagram, and Facebook. The information consisted of pictures with hashtags and comments.

For the third source, research done by others, information was gathered from scientific sources on the users' perspectives specified to Bijlmerplein, Hoptille and Heesterveld.
All information was coded in separated files which were translated into a heat map, word map and an overview of attributes and values.

In Heesterveld, users appreciated the water and planters. However, there has been also a
group of users that did think there is a lack of qualitative greenery. In Heesterveld, people thought there is too much stone and brick and they miss greenery.

Matrixes

After gathering all information of the different stakeholders, conclusions can be drawn from the comparison between the photos. All stakeholders use the same photo set, so the results can be easily compared, this is done by making value matrixes of each photo. A set of values and attributes is used for this matrix. The values are: Ecological, social, economic, aesthetical, historical and political (Tarrafa, 2012). The attributes are subdivided in tangible and intangible attributes: site, surroundings, stuff, surface, amenities, scale, typology, space, story, social, services, vision, atmosphere and past/present/future (Veldpaus, 2016).

Themes

From the matrices, the nineteen themes are extracted. These themes are based on the significance of attributes of the various stakeholders. The themes are typical for the H-buurt and are location specific. After identifying the nineteen different 'theme' codes for the H-buurt, every stakeholder group analysed their main results to translate them into the main conclusions per theme. The most problems in Heesterveld occur within the following themes: diversity in public space; monofunctionally; unsafe feeling; lack of qualitative greenery; nuisance of garbage; and unintended use of public space. These themes simultaneously offer the most opportunity to improve. Heesterveld has a low value on all these aspects, as perceived by the makers, government, owners and the users. The theme diversity in public space has a low value, the makers mentioned that the enclosed block in Heesterveld offered intimate space, however it required a better connection to the public realm on the ground floor level. The lack of qualitative greenery has a mid-value, there is a lot of cosmic greenery which does not add a lot of value. There is also a lot of stonelike material in Heesterveld which is not appreciated. Unintended use of public space has a low value according to all stakeholders, the dark spaces are used for shade activities and the border between private and public space is not present.

Scenarios

After finishing the collective research, scenarios are elaborated and an impact assessment of these scenarios is done. Eight themes for the scenarios are established: social; economy; ecology; aesthetics & identity; landscape & spatial diversity; access, type & functional mix; densification; and crime & safety. The whole group is subdivided in four groups and each group treated 2 themes. Each group uses their own method to develop several scenarios for the themes.

The method for my group will be elaborated further in this paper, as this is used for my design. My group covers the themes ecology and aesthetics & identity. The process starts with a free brainstorm session, around 40 scenarios are developed in this session. Each scenario is then worked out in a GIF on street level, an urban drawing and references are added. After this, the 10 most interesting scenarios are chosen and applied to the different scale levels. On this scale level, the impact on these scales is visible. From this selection, 4 scenarios are chosen. This is done according to the personal interest of the group members. The scenarios are further elaborated and the risks and benefits are defined per scenario. The impact assessment is done for every scenario.

Figure 8: structure scenarios

Figure 9: scenario example 1

Figure 10: scenario example 2

Individual design

The scenario I choose for the previous step was the implementing of a blue/green infrastructure in the H-buurt. For my individual design, I will continue with this scenario. A few steps have to be executed before the start of the design itself. The first step of the individual research is extended literature research. Existing articles and books are consulted and the lessons learned from this literature will be used for the design. Parallel to this literature research, an analysis of the Heesterveld buildings is executed. Important themes is this analysis are: construction; functions on an urban and building scale; materials; apartment types; history; morphology; infrastructure; landscape; services; and smaller elements like windows. According to the literature research and the analysis, a design brief will be made and after that a more defined concept will be developed. An urban plan for implementing the blue/green infrastructure will be developed for Heesterveld as a whole. The design on a building scale will be elaborated for one building in Heesterveld.

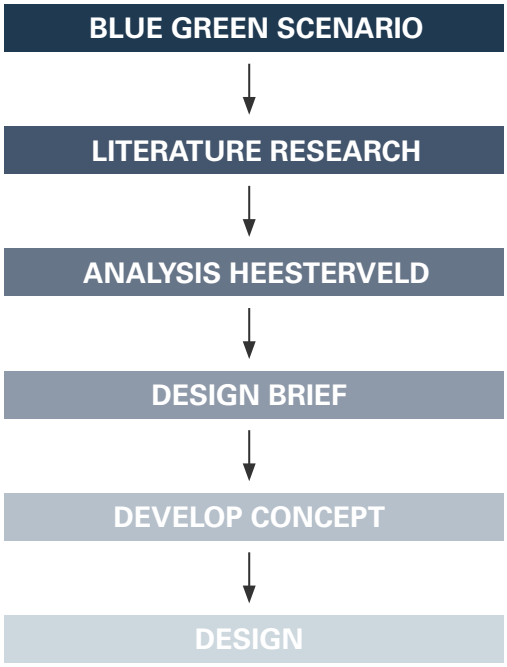

Figure 11: structure design

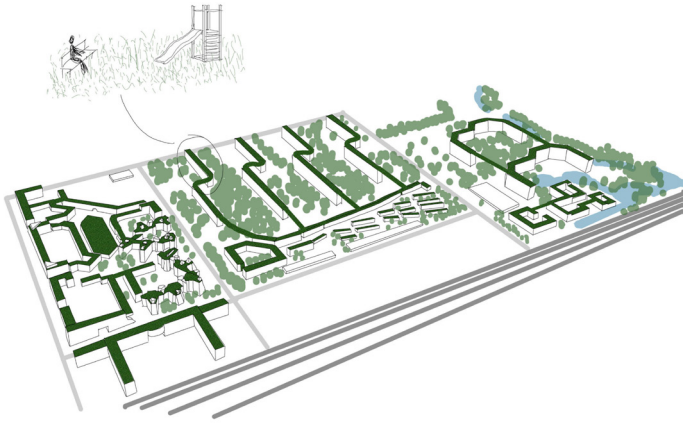

Figure 12: scenario green roofs

Figure 13: scenario blue green infrastructure

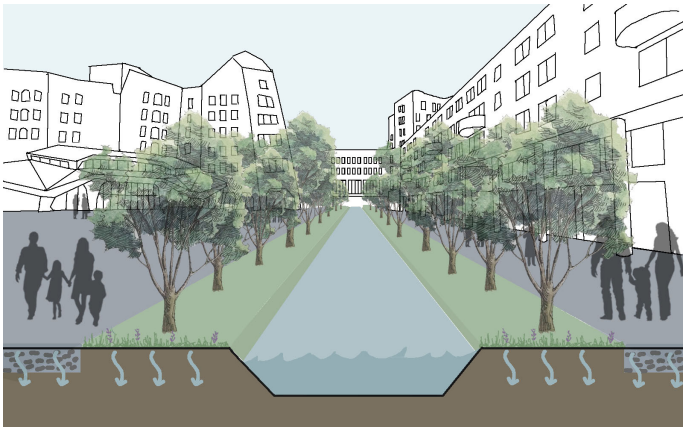

Figure 14: scenario blue green infrastructure

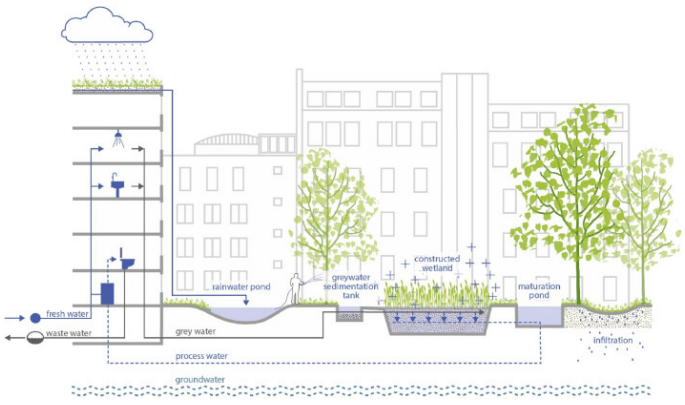

Figure 15: case study (Well & Ludwig, 2019)

Relevance

This research is relevant for the housing cooperation Ymere. The effect on a blue green infrastructure on the social and safety aspects could be really interesting and they could take some aspects from the research and design to implement in the neighbourhood. Ymere is also interested in improving the social structure and the safety in the H-buurt, so they could use the design as a guideline to improve these aspects. The transformation of monofunctionally to multifunctionality could also be of relevance for Ymere.

The Cultural Heritage Agency of the Netherlands is also involved in this project. This research is a preparations for their planned research about value-based energy efficient renovation models.

The results can also be very useful for the municipality of Amsterdam. If they know what the problems of the residents are, they can anticipate on these problems and change these things. The problems and challenges of the public space and the safety are mainly important to the municipality. The residents could also benefit from this research, because the problems can be tackled and the H-buurt could be improved. The municipality can also benefit from the design itself, as it focuses on sustainability, greenery and a mix of functions. The green aspect also influences the social and safety in the neighbourhood. So the blue green infrastructure could be an interesting solution for the safety and social problems in Heesterveld and maybe also in the rest of the Bijlmer. The vision of the municipality of Amsterdam is to make Amsterdam climate proof and carbon neutral, inclusive and affordable, liveable and affordable, economically vital and circular and safe and healthy (Gemeente Amsterdam, 2020). This design could therefore contribute to ideas how to improve these aspects. The design covers most of these themes of the vision of the municipality.

This project can also contribute to other research on new heritage. The research methods of the collective research can be used for other project locations with 70s and 80s architecture. The same method and approach could be used in several areas. Other new heritage research can learn from the mistakes of this research and continue with the positive outcomes.

The analysis of the buildings in Heesterveld and the design project itself could also be relevant in the discussion about 100% heritage. The buildings from the 70s and 80s are relatively young and not necessarily seen as heritage. This discussion is started by the TU delft professors Ana Pereira Roders and Uta Pottgiesser in their lectures in 2019. The analysis can also be used to give a new definition of heritage, new values can be discovered in the analysis. The Faro Convention also emphasises the importance of considering a wide range of objects and places as heritage, and not only the very old buildings (Council of Europe, 2011). The relation between communities and society is also very important for them. This project could contribute to a wider understand of heritage and show that 70s and 80s architecture can also be considered as heritage.

Ethics

For this project, the question could arise if it is ethical to change the public space and therefore also change the social structure of the H-buurt. Gentrification could be a real problem by upgrading the public space by adding a blue green infrastructure and more commercial functions. It could also be a problem that dangerous green spaces are created and even more criminality takes place in the neighbourhood. This can not be foreseen beforehand, so this could be an ethical risk of the design.

Reflection

The lectures, workshops and masterclasses were useful by writing the research plan. In the first lecture, the methodology was discussed and explained. Research tools were also presented in this lecture, which were helpful with thinking of your own research plan. There was however sometimes a gap between the relevance of the examples and my own research plan. It is of course very difficult to show examples which are relevant for all architecture studios. The second lecture, the how-to tutorial, was helpful for setting up the structure of the research plan. The first couple of examples were however a bit hard to relate to and see in the context of the research plan. The second how-to tutorial was also full of examples. The tips of sources and where to find books and archive material was very useful, because it was sometimes difficult to find good literature. I mostly used the TU Delft library, the articles and books were usually online available.

The third lecture on theory was not that relevant for my subject, it did not really have a theoretical research. My approach is more focused on doing research and making a design. It is not really focused on the theoretical part. I also found it difficult to use the information of the third how-to tutorial in my own research plan. There was a lot of information and I thought it was a bit too overwhelming. The view on certain aspects was however really interesting to see and the information was really fascinating. The Masterclass was really interesting for a part of my research plan. It was about interviewing people and about different user groups. This was of course very relevant for our collective research part.

Overall, I think the beginning of the course was quite hard and my start was quite slow. Not all lectures were relevant for my research plan, but that is of course impossible for all architecture studios. Maybe for theoretical information about writing a research plan could be given, by explaining how to write a good introduction, problem statement etc. For the method part, the examples were very helpful, so this could definitely be used in the future.

I thought it was quite difficult to work on the research plan during the first quarter. We were working on the collective research at that time and I did not really thought about my personal interests at that time. So I wrote mainly about the collective part, which we made as a group. After the first feedback session, I could focus more on my individual process and plan. I also struggled a bit with the aim of the frame of reference. At the beginning, I did not really know what was meant by this chapter. After the explanation about this chapter, I could work on it and I could start with my personal literature research.

The time frame for the research plan was good in my opinion. For my studio, the first part was completely collective and not much about my personal interests were discussed at the beginning. So it was really helpful that we could also work on it during the second quarter. I did however take a lot of time during the analysis period of the design part. I could have managed this better. I maybe should have spend less time at the beginning of the process on the collective part, because the individual part was far more important in the research plan.

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