

TRANSITION TO NATURE INCLUSIVE NEIGHBOURHOODS IN THE NETHERLANDS

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Transition to nature inclusive neighbourhoods in the Netherlands

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Summary

Governments, civil society, and market are not yet working together to reach the goal of more nature inclusive developments. The research aim of this research is to explore nature inclusive building and to investigate the factors that can positively influence the transition towards nature inclusive developments. This thesis research will provide an answer to the main research question: *What factors positively influence the transition towards nature inclusive building of small residential neighbourhoods in the Netherlands?* At first, nature inclusive building and the measures that can be taken will be explored. Hereafter, the theoretical concepts will help to answer the main question in multiple layers. These theoretical concepts are: the use of policy arrangements, the involvement of the government and rules, and participation. A case study provides the opportunity to analyse the transition to nature inclusive building in-depth and identify specific factors that positively influence this transition. A comparative case study analysis is used to identify the differences between the development of a nature inclusive neighbourhood and a regular neighbourhood. This comparative analysis can give insight into the differences in the decision-making process and the nature inclusive measures between both neighbourhoods. Two neighbourhoods in the east of the Netherlands are studied, namely the Olstergaard and the Noorder Koeslag. The data is collected through in-depth interviews with actors that are involved in the decision-making process, a focus group interview with five residents and observations at the municipality.

A lot of similarities and differences can be identified between both cases. From this, a conclusion and an answer to the main research question can be drawn. First of all, the actors positively influence the transition to nature inclusive building. For example, involving experts and the residents as central actors can positively influence this transition. Sharing knowledge about nature inclusive building and including an ecologist to gain extra knowledge can also positively influence the transition. Next to that, the municipality has much influence as central actor in the decision-making process. The municipality should have a positive attitude towards nature and biodiversity. Neighbourhoods should have a vision that is nature inclusive to make the transition towards nature inclusive building. In addition, formal rules can be of great importance for making neighbourhoods more nature inclusive. Lastly, involving the residents in the participation process can positively influence the transition towards nature inclusive building in new neighbourhoods.

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Introduction

Worldwide, nature and biodiversity are under much pressure, as is the case in the Netherlands. A lot of nature is lost because of pressure from land use or fragmentation (CLO, 2016). Increasingly, nature areas in the Netherlands are getting smaller and more fragmented (Nederland Natuurpositief, 2019). The current measures for biodiversity recovery in Dutch nature areas have resulted in less biodiversity loss. In cities, however, biodiversity is still declining. The process of urbanization will keep on going and causes a growing need for space to live, work and recreate (Borsboom-van Beurden, Boersma, Bouwman, Crommentuijn, Dekkers & Koomen, 2005). To prevent further decline in biodiversity, the Dutch nature policies should be combined with policies in other sectors. In agriculture, housing and infrastructure, the belief should be to strengthen the nature and biodiversity rather than only limiting the damage (Nederland Natuurpositief, 2019). Exactly how high the pressure on nature will be in the future will depend on the degree of protection policies of the government (Borsboom-van Beurden, et al., 2005).

Next to the problem of biodiversity loss, the Netherlands also copes with an increasing housing shortage. The actual construction of houses lags behind the policy goals of generating at least 75.000 new homes per year (Koning & Kragt, 2020). The construction of new homes will only decline more due to the measures concerning nitrogen. At the same time, the number of households in the Netherlands will increase, which will cause even more tension in the housing market in the coming years (Koning & Kragt, 2020) (Heijden & Boelhouwer, 2018). When promoting sustainable development, creating attractive neighbourhoods which can offer a high quality of life should be equally important as building more high-density housing. (Howley, Scott, & Redmond, 2009). The Netherlands has a “ladder of sustainable urbanization” which means that the construction of new houses outside the urban area is only possible if there is proof that there are not enough possibilities to build within the urban area (Heijden & Boelhouwer, 2018). The housing shortage is the highest in big cities in the Randstad region, but in the east of the Netherlands, the housing shortage is increasing (Ruimte voor wonen; brede maatschappelijke heroverweging, 2020). The accessibility of the housing market is under pressure in the social housing, the rental, and the owner-occupied sector.

The problems of biodiversity loss, as well as the housing shortage, are very much intertwined. Due to the ladder of sustainable urbanization, houses cannot be built in nature areas. New housing projects in nature areas will cause even more biodiversity loss. To prevent this biodiversity loss, nature and biodiversity should be strengthened while building homes, instead of only focussing on building more and more homes. Intertwining nature in different sectors can be captured in the Dutch term "nature inclusive". This concept finds its origin around 2013 and 2014 in Dutch policy documents (Farjon, Gerritsen, Donders, Langers, & Nieuwenhuizen, 2018). The Dutch government explained the term nature inclusive in 2014 in a report on nature policy. Nature inclusive is described as: nature included, a way of thinking and acting where nature must always play a role (Min. EZ, 2014). In planning for development, nature inclusiveness can be seen as considering nature upfront instead of compensating later for the harmful effects (Verweij, et al., 2020).

The Novi (national environmental vision) document of the Dutch government addresses nature inclusive development as follows: “the Netherlands will have set aside more space for

nature, by more strongly integrating nature and landscape values with other developments” (Rijksoverheid, 2020). Furthermore, nature inclusive building should become the standard when designing urban and rural areas.

Elections have just taken place in the Netherlands, and a new cabinet must be formed. Multiple companies and organizations are calling on the new cabinet to take sustainability into account when constructing new buildings, to save the quality of life and biodiversity (Manifest bouwen voor natuur, 2021). The current way of thinking, which is market-based, focuses on improving efficiency and maximizing profit. This way of thinking bypasses aspects of sustainability (Rotmans, 2005). Together with the Dutch Provinces, the Ministry of Agriculture, Nature and Food Quality started the program "Nederland Natuurpositief" (the Netherlands Nature positive) to stop the loss of biodiversity and strengthen nature. The recovery of biodiversity should not only take place within nature reserves of the Dutch Nature Network (Natuur Netwerk Nederland), but it should also occur in cities, rural areas and extensive waterways (Min. LNV, 2019). According to the ambition document of the Ministry of Agriculture, Nature and Food Quality, the recovery of biodiversity will get a place in the real estate sector as well.

Transitions

A transition is necessary for new neighbourhood developments to achieve these goals. Transitions are a process of transformation in which society changes fundamentally over a generation or more (Rotmans, Kemp, & van Asselt, 2001). The way of thinking and acting of players in neighbourhood developments needs to change in a fundamental way to consider nature upfront. Nature inclusive building might offer a part of the solution to both the biodiversity loss and the housing shortage.

Transitions result from developments in different domains (Rotmans, Kemp, & van Asselt, 2001), multiple players from different societal spheres are involved in neighbourhood developments. In the Netherlands, municipalities often have responsibility for land development. Especially with public developments, municipalities frequently pursue active land policy. Municipalities set up operational requirements to define construction criteria for (housing) projects. In the real estate sector, project developers and architects provide the translation of the operational requirements to the visualization of the project. Criteria for nature inclusive construction can be included in these operational requirements. However, according to Farjon, et al. (2018), hardly any nature inclusive criteria are included in the operational requirements of municipalities. At the individual building level, less than 5% of the inquiries have nature inclusive criteria. When there are no nature inclusive criteria in the operational requirements of the municipality, project developers are less likely to put any effort into it by themselves, since operational requirements are often leading in the design (Farjon, et al., 2018). According to ten Bolscher in (Schaatsbergen, 2021), many nature inclusive projects are initiated only because of the enthusiasm of one individual board member at the municipality.

The government, however, is not the only player with influence on nature inclusive developments. With the construction of new neighbourhoods, the building and real estate industry also significantly influences the economy, environment, and society (Priess, Rajnoha, Losert, Vogel, & Teufel, 2017). The real estate sector, including architects, project developers,

housing corporations, construction companies and city planners, has a significant influence. Recent research from Wageningen University points out that investing in green areas in the real estate sector still has a low priority (Dijkshoorn-Dekker, Kortstee, Michels, & Polman, 2018). In cities, green areas often loose from other spatial claims (Dijkshoorn-Dekker, Mattijssen, Haaster-de Winter, Kortstee, & Polman, 2020). Even though there is growing attention to nature inclusive developments, the real estate sector is not yet convinced. It appears that a big group of companies in the real estate sector do have an interest in nature inclusive construction, but lack knowledge about the concept (van Haaster-de Winter, Dijkshoorn-Dekker, Polman, Mattijssen, & Kortstee, 2020). There is a lot of insecurity about the process, and nature inclusive developments do not fit to their current way of working. Building nature inclusive requires a certain degree of awareness and planning.

Transitions are complex processes and involve players from different domains. This complexity also applies to the transition to nature inclusive developments. Therefore, it can be concluded that multiple parties from different domains are involved with nature inclusive developments. First of all, the national government and the provinces can be seen as players in this field because of the goals they set for nature inclusive development and the project Nederland Natuurpositief. Next to that, municipalities can play a significant role in the implementation of nature inclusive developments. Municipalities can set demands in the operational requirements. However, municipalities cannot do this on their own. The problem with the decentralized governance is that if one municipality has strict demands, the construction companies can easily go to another municipality to build without these demands. The real estate sector, including project developers, construction companies and architects, are crucial players in this complex issue. Another player in the transition to nature inclusive developments is civil society. Demand creates supply, and therefor there should be demand for nature inclusive housing.

Research problem

Multiple actors are involved in the transition process, and it appears that these actors are not yet acting nature inclusive. In the transition process, networks consisting of governments, civil society, and market work together to reach sustainable development goals (Dijkshoorn-Dekker, Soma, & de Blaeij, 2017). However, it seems like these actors are not yet working together to reach the goal of more nature inclusive developments.

Research aim and research questions

Because of the complexity of the issue, the number of parties involved and the concise amount of scientific research on this topic, this research will be exploratory of nature. There are multiple factors that can influence a transition in a positive or negative way. The research aim of this research is to explore nature inclusive building and to investigate the factors that can positively influence the transition towards nature inclusive developments. These factors can be political, economic or social. The research question is:

What factors positively influence the transition towards nature inclusive building of small residential neighbourhoods in the Netherlands?

The scope of the main research question is too wide to answer it directly. Therefore, the main research question will be answered by creating sub questions with use of the theoretical

framework. The theoretical concepts will help to answer the main question in multiple layers. The main research question is simplified into four sub questions:

- What nature inclusive measures are applied in the housing projects?
- What policy arrangements are used and how does this influence the development process?
- What is the role of the government and what rules are applied in the neighbourhood development process?
- What form/type of participation is used, and how did this influence the development process?
- What are the similarities and differences between a nature inclusive housing project and a regular housing project?

Societal relevance

All over the world, the development of new green space is a problem in city environments. This seems to be a problem in the already dense city environments and in less dense urban environments such as suburbs (Haaland & Konijnendijk van den Bosch, 2015). Often the relation between what to design on a specific site and the biodiversity and other sustainability requirements of a city remains largely ignored (Beer, Delshammar, & Schildwacht, 2003). Biodiversity and nature provide services and products to society and the economy and are vital for human existence on earth (CBS, PBL, RIVM, WUR, 2017). Biodiversity is under much pressure because of human activities. The Dutch national biodiversity policy aims to counter undesired changes in biodiversity. The European and Dutch policies aim to protect important habitats and species, reduce environmental and spatial pressure, and improve the sustainable use of ecosystem services (CBS, PBL, RIVM, WUR, 2017). Governmental policies, and the societal actions that follow, influence the environmental and spatial conditions of nature. This in turn influences the biodiversity.

Nature inclusive developments combine the design of a neighbourhood with the biodiversity in the city. The Netherlands has a significant housing shortage, and a lot of new houses need to be built, as is the case in the east of the Netherlands in the area Zwolle-Deventer. Therefore, the Dutch House of representatives accepted a motion for a Housing Deal for the area Zwolle-Deventer (Koerhuis, 2021). The deal has yet to become binding and more detailed, but the idea is to build thousands of new houses in this area. Different media write about people moving from the Randstad to the east of the Netherlands causing a housing shortage (Oudega, 2019) (Woningtekort Oosten door komst Randstedeling, 2019) (Smouter, 2020) (Woningnood in Oost-Nederland door Randstedeling, 2019). People want to live in spacious green areas. However, it is not easy to build more houses on a large scale in the east of the Netherlands because many nature areas are situated there. Next to that, the ladder of sustainable urbanisation was introduced in 2012 for urbanization policy. According to this ladder, new housing can only be built outside of existing residential areas if there is proof that it is impossible to build within the existing residential areas (Heijden & Boelhouwer, 2018). Nature inclusive neighbourhoods give the unique possibility of building new homes while simultaneously increasing biodiversity.

People's daily contact with nature occurs in urban green spaces, and this contact has measurable physical and psychological effects. These psychological benefits increase with the species richness of the public urban green places (Fuller, Irvine, Devine-Wright, Warren, &

Gaston, 2007). Therefore, increasing biodiversity also contributes to people's well-being. The process of urban densification, however, can threaten urban green space (Haaland & Konijnendijk van den Bosch, 2015). Partly due to the Covid pandemic, more people find it essential to have a garden (RTL Nieuws, 2020). Living more spacious in a rural area is attracting more people. Due to the pandemic, more Dutch people are less satisfied with their homes. According to a survey from housing provider Funda in September 2020, twelve percent of the respondents indicates that they consider moving out of the city towards a smaller village (Coronacrisis verbreedt horizon van woningzoekers, 2020). The travel time between the house and the work address is becoming decreasingly important. This makes it more attractive to live on the east side of the Netherlands, further away from the Randstad region but very spacious and green.

Recent research into nature inclusive neighbourhoods indicates that these neighbourhoods have a high resident satisfaction, above-average amount of nature, feasible and affordable maintenance and benefits for residents and governments (Kooijmans, Snep, & van Stiphout, 2021). Although there is a significant housing shortage and, at the same time a nature and biodiversity problem, it appears that municipalities, as well as the real estate sector, do not pay much attention to nature inclusive developments. Despite the acknowledgement that green space has a direct impact on our health, it has yet to influence town planning (Beer, Delshammar, & Schildwacht, 2003). The national government set goals to strongly integrate nature and landscape values with other developments, but nowadays, the different actors do not reach this goal. However, nature inclusive building might solve part of the biodiversity loss and the housing shortage and provide attractive green residential areas.

Scientific relevance

The multifunctional nature of green space and the importance of taking the planning of greenspace more seriously is shown by Beer, Delshammar, & Schildwacht (2003). Despite this, scientific literature about green in the real estate sector is now focussed on the environment and sustainability instead of biodiversity and nature (Dijkshoorn-Dekker, Mattijssen, Haasterde Winter, Kortstee, & Polman, 2020). The attention for biodiversity and nature in the real estate sector is growing in scientific literature. Nature inclusive building connects biodiversity and the real estate sector. This thesis research can add to the increasing attention in the literature to nature and biodiversity in the real estate sector through knowledge about nature inclusive building in new neighbourhood developments. It will provide new insights in nature inclusive building and increasing biodiversity in itself, but it will also connect this to new neighborhood developments. Nature inclusive measures that can be taken in neighbourhood developments in and around the house as well as in public areas will be explored.

For a long time, nature served as a purpose for people to enjoy and to unwind. Until the advent of urban ecology in the eighties, it became clear that the city is of interest for biodiversity (Farjon, Gerritsen, Donders, Langers, & Nieuwenhuizen, 2018). As mentioned before, the concept nature inclusive was only introduced around 2013. The consequence of such a young concept is little scientific literature. Moreover, little research is done on nature inclusive entrepreneurship. Construction can be seen as a domain of nature inclusive entrepreneurship (Farjon, Gerritsen, Donders, Langers, & Nieuwenhuizen, 2018). This thesis research can add to the existing literature on nature inclusive concepts and especially to nature inclusive developments in the housing sector. New knowledge will be provided about the factors that

influence the transition to nature inclusive building. This research will, for example, provide insights in policy dimensions and how they can influence the transition. Next to that it will look into the role of the government and the formal and informal rules. A lot of research has been done to participation, but not on the influence of participation on nature inclusive building. This research will add to this by exploring the influence of participation on the transition towards nature inclusive building.

Furthermore, this research will use the theory of policy arrangements from Arts, van Tatenhove, & Leroy (2000). Policy changes over time, since this theory is over twenty years old now, the theory might differ from the current practices. It can be questioned if the four dimensions are still up to date, maybe dimensions can be added or removed. This research can add to the theory by exploring if the policy arrangement theory is still in line with the current situation.

Theoretical framework

A theoretical framework helps to gain more insight into the transition process to nature inclusive developments. This theoretical framework is formed by several concepts, including transitions, participation, and policy arrangements. Hereafter the terms biodiversity and nature inclusive will be explained in more detail to determine factors that influence the transition to nature inclusive developments. The theoretical framework was fundamental for creating sub questions to answer the main research question of this thesis.

Nature inclusive measures

So far, there is not an extensive amount of scientific literature on the concept and definition of nature inclusive. Several writers and institutions have defined the concept, but there is not one final definition. Wageningen University explained the Dutch term "natuurinclusief" in several scientific articles. Farjon, et al. (2018) explained nature inclusive development as follows: the construction or renovation of buildings and designing the surroundings of these buildings in such a way that nature values benefit from it. This can relate to biodiversity or nature's utility value for humans (Farjon, et al. 2018).

In planning for development, nature inclusiveness can be seen as considering nature upfront instead of compensating later for the harmful effects (Verweij, et al., 2020). Therefore, when constructing a nature inclusive neighbourhood, nature should be considered from the start of the project. There are multiple ways and degrees to which nature can be considered when constructing a neighbourhood. There are multiple nature inclusive actions or initiatives that can be taken. However, the nature inclusive approach needs to benefit both ecosystem and its services (Verweij, et al., 2020). There should be positive outcomes for nature as well as people.

Straightforward approaches for the concept nature inclusive differ between organizations and writers, but according to Verweij, et al. (2020), there are common emerging characteristics. Nature inclusive concepts focus on people and nature as inextricably linked systems. Next to that, they aim to address economic and societal challenges and provide benefits for nature at the same time. Nature inclusive actions are an addition to the general nature conservation actions, they should not be a substitute. Nature inclusive acting works better with links to context-specific development objectives (Verweij, et al., 2020).

It is not yet common to build nature inclusive, but more and more initiatives come from different sectors. The Dutch government explained the term nature inclusive in a report on nature policy in 2014. Nature inclusive is described as nature included, a way of thinking and acting where nature must always play a role (Min. EZ, 2014). According to the RVO, nature inclusive should become normal in developments and urbanisation. Nature inclusive is defined as designing the build environment and the additional areas in a way that adds positively to the biodiversity (RVO, sd). A website is made as an inspirational tool for civil servants, urban designers, urban ecologists and other parties.

Nature, as previously explained, is more than just green. Current research into biodiversity in the city shows that a diversity of habitats can significantly influence biodiversity (Lahr, et al., 2014) (Shwartz, Muratet, Simon, & Julliard, 2013). With nature inclusive developments, the

coherent system must be taken into account, with particular attention to increasing biodiversity. Therefore, it is crucial to investigate the specific conditions for a specific species. Three main factors influencing the biodiversity (RVO, sd):

- Area: is there enough space for the species. There should be a balance between buildings and greenery.
- Connection: the connections between the different parts of the habitat which can be very important for the ecological network
- Diversity and Quality: the quality of the habitat and the green space

A neighbourhood must have some measures to make it nature inclusive, according to Kooijmans, Snep, & van Stiphout (2021) these measures are: connection to the current environment, preservation of existing plants, planting native vegetation and keeping water in the area.

As mentioned before (in the introduction), multiple companies and organizations call for the new cabinet to include sustainability in new buildings (Manifest bouwen voor natuur, 2021). These companies signed a document (manifest) stating that thought must be given to opportunities for nature at every stage of the construction process. The details depend on the local conditions and local species. However, three measures can be defined that are good for biodiversity, water storage, heat stress and health. These are simple measures that add much value and belong to each new housing development. First of all, nature within the house, including space or nesting bricks in the facades and roofs for building-dependent species. Second, nature around the house, including green roofs, green facades and greenery in the garden. Finally, nature in the area, meaning greenery in public spaces and connecting routes for animals through greenery (Manifest bouwen voor natuur, 2021). Buildings can provide ideal shelter for plants and animals, both on roofs and facades. The design of the individual building and the layout of the public space in the neighbourhood, must be coordinated and adjusted to one another so that the measures are effective for increasing biodiversity (RVO, sd). To make a neighbourhood nature inclusive, municipalities, as well as project developers and construction companies, can implement specific measures:

Project developers/construction company	Municipality
Green roofs	Green structure and parks, species-oriented
Green facades	Flowery meadows, roadsides and public gardens
Bat box / nesting stones	Plants, shrubs and trees
Involve courtyards	Open water and ecological banks
Involve private outdoor space	De-stoning, permeable pavement, mudflats

Table 1 Measures for municipalities and project developers (RVO, sd)

Some municipalities are already trying to support nature inclusive developments. In 2019, Den Hague was the first municipality in the Netherlands that started with a point system for nature inclusive building (Klasberg, Puntensysteem stimuleert groener bouwen in Den Haag, sd). The point system determines how many points a construction project must have. The more points a project gets, the more measures will have to be taken. By making the design, the developer can choose to implement measures from a diverse list. They started to make this point system obligatory for some new projects, the other projects can use it voluntarily. According to this point system, nature inclusive building is about improving the living environment of species

tied to the building. These species are under pressure because buildings nowadays do not provide accommodation. On the other hand, nature inclusive building is about the broad implications of more greenery in residential areas (Klasberg, 2018). Sustaining nature and creating more green spaces is essential for protecting species, a healthy living environment, health and climate. The policy in Den Hague is aimed at:

- Specific elements for specific species (for example nesting stones)
- Interventions related to the building (green roofs and green facades)
- Building related outdoor space (gardens)
- Public area (pocket parks, nature playground)

The municipality of Amsterdam created a manual for nature inclusive developments in the city. According to this, nature should get a serious role in designing new houses and public space (Blokker & Timmermans, 2018). They do not provide a precise definition of the concept, but they provide 20 examples of measures that can be taken to design and build more nature inclusive. They argue for involving nature inclusive building early in the planning process (Blokker & Timmermans, 2018). The importance of looking at local species and adapting measures accordingly is also emphasized in this document.

1. Nesting stones for birds	2. Bat boxes
3. Hotels and stones for insects	4. Green roof
5. Brown roof	6. Water roof
7. Green facade	8. Facade garden
9. Nature playground	10. Water drainage through filtration
11. Pond	12. Amphibian pool
13. Hedge	14. Flowery tree mirror
15. Ecological banks	16. Green quay walls
17. Sand martin wall and kingfisher wall	18. Wall of wilderness
19. Butterfly and bee idyll	20. Connection to ecological structure

Table 2 Nature inclusive measures in a neighbourhood according to Blokker & Timmermans (2018)



Figure 1 twenty nature inclusive measures (Blokker & Timmermans, 2018)

To create a more complete set of measures, the measures from Blokker & Timmermans can be combined with other measures from other writers. The measures from RVO and Klasberg (2018), which are discussed above, will be integrated into the framework together with additions from Econsultancy. Some measures already look-alike or can be combined, and others can be added to the list of twenty measures.

21. Involve courtyards (RVO)	22. Plants, shrubs and trees (RVO)
23. Green structure and parks, species oriented (RVO) pocket parks (Klasberg, 2018), tiny forest, fauna passage (Econsultancy, sd)	24. Involve private outdoor space (Klasberg, 2018) (RVO)
25. De-stoning (RVO) (Econsultancy, sd), permeable pavement, mudflats (RVO)	26. Bat friendly lightning (Econsultancy, sd)

Table 3 addition to the 20 nature inclusive measures

Although nature inclusive developments are not familiar yet, not only municipalities but also the market sphere has several initiatives for nature inclusive developments. Like the construction company Heijmans, committed to making the Netherlands more sustainable through climate-adaptive and nature inclusive constructions (Verduurzamen bij Heijmans; klimaatadaptief en natuurinclusief bouwen, 2020). With nature inclusive constructions Heijmans means a healthy living environment as a benchmark for the integral design and realization of infrastructure, housing and buildings. In new build neighbourhoods they create an ecosystem where humans, plants and animals can live together (Verduurzamen bij Heijmans; klimaatadaptief en natuurinclusief bouwen, 2020). Together with the Ministry of Infrastructure and Water Management they translated this vision into 'symbiotic building'. Symbiotic building is the idea of constructing in symbiosis with the environment.

The different examples and definitions of nature inclusive building can be combined to identify the success factors of a nature inclusive neighbourhood. The individual factors can all contribute to a more nature inclusive neighbourhood.

Measures nature inclusive neighbourhood	Source
Considering nature up front	(Verweij, et al., 2020)
Positive outcomes for both nature and people	(Farjon, et al. 2018) (Verweij, et al., 2020) (Verduurzamen bij Heijmans; klimaatadaptief en natuurinclusief bouwen, 2020) (Klasberg, 2018)
An addition to general nature conservation actions, not a substitute	(Verweij, et al., 2020)
26 examples of nature inclusive measures	(RVO, sd) (Blokker & Timmermans, 2018) (Econsultancy, sd) (Klasberg, 2018)
Knowledge of the local conditions and local species	(Blokker & Timmermans, 2018) (Klasberg, 2018)

Table 4 factors that contribute to a nature inclusive neighbourhood

Governance

Scholars are increasingly focussing on many other actors beyond the formal representative government, while at the moment, they are paying attention to the governance setting in which governments are operating (Geurtz & Van de Wijdeven, 2010). An alternative view on social embedded spatial planning goes beyond the government perspective towards a focus on citizens and businesses (Boonstra & Boelens, 2011). The state, market and civil society spheres should work together to solve issues. Participatory governance has made its way into political practices during several decades (Fischer, 2012). Participatory governance engages people or organizations outside the government through political networks that enables collaborative-based relationships among public and private sectors. Participatory governance differs from regular participation on the essential elements of equal distribution of political power, a fairer distribution of resources, a decentralized decision-making process, exchange of knowledge and information, collaborative partnerships, greater accountability and inter-institutional dialogues (Fischer, 2012). The relationships between actors are more based on trust. Operating in a governance setting can be very complex because of conflicting responsibilities and tensions that need to be dealt with. Nevertheless, it is possible to cope with governance challenges (Geurtz & Van de Wijdeven, 2010).

In environmental policy, there is an increasing variety of policy arrangements. The more traditional, government-controlled arrangement coexist with more innovative arrangements (Arts, Leroy, & van Tatenhove, 2006). Changing interrelations between state, market and civil society causes a change in the structure of domination (Arts, van Tatenhove, & Leroy, 2000). To face the challenges of the complex society, governments and other spheres of authority have to develop steering capacity in a horizontal way rather than hierarchical ways (Levi-Faur, 2012). The government can create horizontal arrangements to connect with organisations and citizens. They should not face challenges alone but involve individuals as well as organizations in the process. Governments can share power with many other actors using the governance setting (Geurtz & Van de Wijdeven, 2010). There is less need for government preconditions if the aim is genuine cooperation between the stakeholders (Boonstra & Boelens, 2011). The role of the government in this perspective has shifted from direct control to a more coordinating role of horizontal networks. This non-hierarchical process is also visible in intersectoral partnerships. Intersectoral partnerships can be seen as collaborative arrangements between actors from two or more spheres of society that strive for a sustainability goal in a non-hierarchical process (van Huijstee, Francken, & Leroy, 2007). The idea is that public and private actors create horizontal arrangements and should face challenges together.

Transitions

Transitions are a process of transformation in which society changes fundamentally, this requires time and can even last a generation or more (Rotmans, Kemp, & van Asselt, 2001). They are not homogeneous; transitions can differ in both the period over which it occurs and the scale of change. Transitions can be seen as multidimensional processes and are a result of connected changes in different domains. They often include multiple actors and are complex and long-term processes (Geels, 2011). Transitions take much time because the existing structures must be taken down first (Rotmans, 2005). System innovations are required for transitions. System innovations transcend organizations and drastically alter relationships between players in the system. System innovations consist of multiple small innovations and

can lead to a transition (Rotmans, 2005). As the government has set nature inclusive development as a goal, it can be seen as a goal-oriented transition (Dijkshoorn-Dekker, Soma, & de Blaeij, 2017).

If the goal is related to a public good, nature inclusiveness can be seen as such, it implies problems like free rider behaviour and prisoner dilemma's (Geels, 2011). The user benefits that a public good has to offer are not obvious. These unclear benefits can make the transition to nature inclusive developments even more difficult. The transition to nature inclusive developments deals with changes in different domains and includes multiple actors.

Kemp, Loorbach, & Rotmans argue that radical changes in the current governance systems are needed for sustainable development (2007). Sustainable development involves multiple transitions and involves changes in wants, needs, culture, institutions and practices. Traditional forms of governance seem to be not suitable for complex societal challenges (Rotmans, 2005). The top-down governance and the liberal free market approach are not effective management mechanisms for sustainable solutions. Transition management holds a view on the future based on collective goals, however, the means for fulfilling these goals are not specified. Transition management is open concerning the outcomes and is participatory (Kemp, Loorbach, & Rotmans, 2007). Transition management has participation at various levels and is a multi-actor process, it can be seen as a specific form of multi-level governance (Rotmans, 2005).

Participation

Public participation can only be understood in the context of the decision-making process. Decision makers can gain information about the preferences of the public through public participation. Next to that, decisions can be improved by incorporating the knowledge of the public (Innes & Booher, 2000). Sherry Arnstein is one of the founding writers on citizen participation (1969). The notion of citizen participation is conceptualized into the ladder of citizen participation which specifies the degree of participation. The ladder consists of eight levels of participation, the eight levels indicate to what extent citizens have power in determining the end product. The higher up the ladder, the more power citizens have in the decision-making process. The ladder is a simplification of reality, but it illustrates that there are multiple gradations of citizen participation. The eight levels of participation are subdivided into three categories: non-participation, tokenism, and citizen power (Arnstein, 1969).

The goal of non-participation is to enable the people who have power to educate the participants. People are not enabled to participate. The most extreme form of non participation is manipulation where people are placed in advisory board in the name of citizen participation, but the only purpose is to educate them. The second category is degrees of tokenism. In this category citizens are allowed to hear and to be heard, but they cannot assure that the powerholders obey their views. The powerholders will in the end make the decisions. The last category is degrees of citizen power, where the citizens have increasing degrees of decision-making power. This ranges from the possibility to negotiate with powerholders to full managerial power.

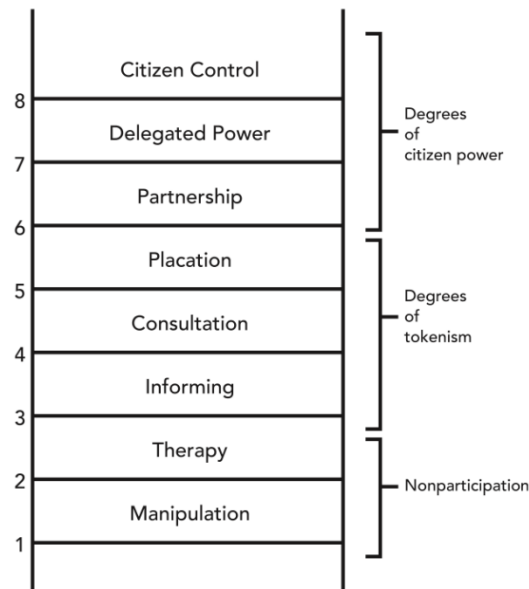


Figure 2 eight steps of the ladder of citizen participation (Arnstein, 1969)

Some writers feel like participation is romanticised in the literature, it has to be examined if participation is implemented by the right mechanisms and if it might not be more appropriate to let the policy making up to the experts (Hurlbert & Gupte, 2015). Participation is not generally applicable and should be case specific for it to work (Geurtz & Van de Wijdeven, 2010). Rotmans (2005) argues that the 'consensus democracy' of the Netherlands culminates in considerable delays in decision making. Public inquiry procedures and participation seek consensus, but this process takes much time. Letting experts decide will speed up the decision-making process, but it is already argued that the public can provide other insights and knowledge. According to Arnstein, the highest rings on the ladder are preferred, but the appropriate level of citizen engagement might differ depending on the participants' objectives and capacity.

Citizen participation in planning used to be based on direct communication instead of an interactive process between the government and the citizen (Innes & Booher, 2000). The government and the citizen are not the only players in participation processes, interest-based entities also play a part in the interaction with the government and citizens. In the current form of governance, the government depends on the knowledge and experience present in society (ROB, 2012). Therefore, this government should give tasks to others and give the power and responsibility that belongs to that task. The original participation ladder is no longer suitable for the new situation, so ROB (2012) introduces the government participation ladder. This ladder is more suitable to the current situation where the government depends on the knowledge and experience present in society. The lower steps on the ladder mean more space and power for society, and higher up the ladder means more government control and less power for society.

Release or letting go is at the bottom of the ladder, the step with the least government interference. The government can release a task and has no involvement in the content nor the process.

Facilitate is the second step where the government chooses a facilitating role if the initiative comes from someone else and if the government is interested in making this initiative possible.

The middle step is to stimulate, where the government wants a particular policy or intervention but leaves the realisation to others. The government does look for opportunities to get those others moving towards that policy or intervention.

The fourth step is directing, this means that other parties do play a role, but the government wants to be in control.

The highest up the ladder is the heaviest instrument the government can use, regulating by laws and regulation. The government can enforce rules and sanction the violations of these rules. This instrument means that there is a vertical relationship between the government and the citizens.

As mentioned before, the transition towards nature inclusive developments requires participation at various levels. The traditional form of governance is not suitable for transitions. When putting this into the perspective of the government participation ladder, there should be a move away from the top step of the ladder (regulate) towards more participation to make the transition possible. In the current era, the government relies on the knowledge and experience of society, space should be provided for society to be involved in the process. For answering the research question, it is essential to find out the extent of government control in the decision-making process.

Dutch housing policy

The government has much influence on the decision-making process, but they have more responsibilities when it comes to building new homes. Municipalities can have different strategies when it comes to the land and the housing market. Since the eighties, more market parties started to acquire land positions in the areas where they expected a building assignment. As a result, the land market got increasingly integrated with the housing market (Segeren, 2007). The central government is not involved in the development of the land in a risk-bearing manner, the central government has the role of assessor to see whether subsidies can be granted (PBL, 2015). In the Netherlands, building new homes is primarily municipal and provincial since 2010, the national government has a more directing role (Heijden & Boelhouwer, 2018).

Many municipalities used to pursue an active land policy where they buy the agricultural land, service the land, and sell the land ready for construction (Segeren, 2007; Needham, 2016).

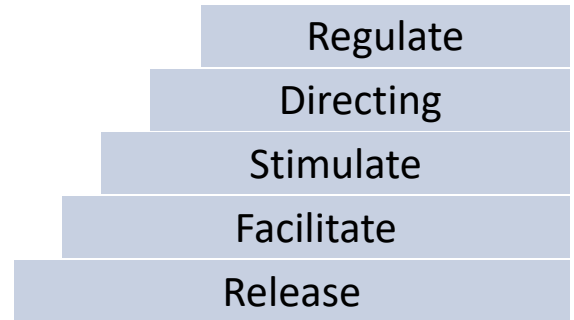


Figure 3 the government participation ladder (ROB, 2012)

The municipality bears the risks but they can also make a lot of profit by selling the serviced land. Since 1994 the price of developed buildings increased and less social housing was included in the plans, resulting into an increase in the average value of building land (Needham, 2016). From that point onwards, the municipality is no longer the only active player on the land market, which puts them at greater financial risk. In the last two decades, some municipalities choose to bear no financial risks in the form of facilitating land policy (PBL, 2015). The municipality plays a facilitating role that presents a vision for the area and brings multiple actors together. However, in this situation, it is much more difficult for the municipality to take a directing role (Segeren, 2007). The role of the municipality in this situation is limited to setting rules and supervision. Municipalities can also choose to buy the land from a project developer who has already purchased the land in an early stage to take possession of the land. The project developer can sell his land voluntarily to the municipality in exchange for a construction claim (Needham, 2016). The construction claim gives the developer is the right to buy back an amount of serviced land to build a certain number of houses in the plan area. The advantage of this method is that the municipality is responsible for servicing the whole plan area. Next to that, the project developer has the guarantee that he can build houses and he has reduced his risks (Needham, 2016).

There are multiple roles that a municipality can take in area development. Active land policy always has elements of facilitating policy, and facilitating land policy often goes hand in hand with an active role of the municipality in places where they want to control the land (Segeren, 2007). These roles influence the amount of risk a municipality has to take and the amount of control they have over that area. The owner of the land bears most risks but also has more control.

Policy arrangements

Political modernization means big changes in the political field regarding the interrelations of state, market, and civil society (van Tatenhove & Leroy, 2000). A policy arrangement can be seen as the concept that links long-term processes of political change with specific policy making processes and implementation on the ground. The transition towards nature inclusive developments can be seen as a long-term process of political change. According to van Tatenhove & Leroy (2000) *“A ‘policy arrangement’ is understood as the substantive and organizational stabilization of a policy domain in terms of agents, rules, resources and discourse”*. The operationalization of the policy arrangement is set out in four policy dimensions: policy discourses, policy coalitions, power and resources, and rules of the game. These four key variables can be used to understand policy practices. The policy dimensions can be divided into two categories, actors, resources and (some rules) belong to organisational aspects and discourses and (other) rules belong to substantive aspects (Wiering & Arts, 2006). The four dimensions are interrelated, and a change in one dimension tends to impact one or more of the other dimensions (Liefferink, 2006). The interconnectedness is shown in the tetrahedron, a policy analysis can start at every corner of the tetrahedron. This conceptual framework is inspirational for an analysis and classification of structural political developments (Arts, Leroy, & van Tatenhove, 2006). Next to that, it offers opportunities to identify pretexts for improving policy. The four policy dimensions and what they mean in this specific research will be explained next.

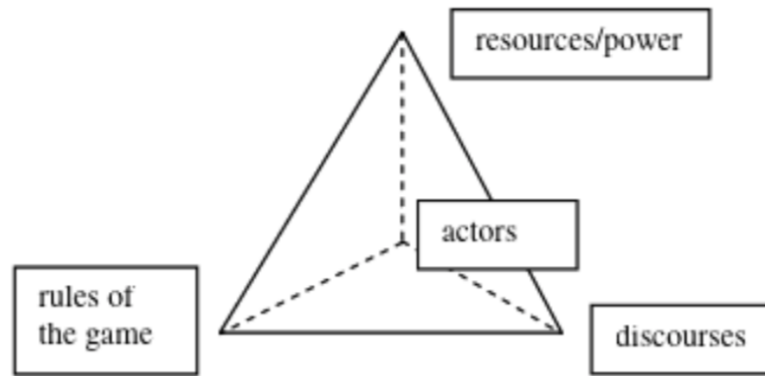


Figure 4 The tetrahedron that symbolises the interconnectedness of the four policy dimensions

Rules of the game

The rules of the game define the possibilities and constraints for policy agents to act within a policy domain (van Tatenhove & Leroy, 2000). A distinction can be made between formal rules and informal, cultural rules. Formal rules refer to the legislation and procedures, while informal rules refer to procedures in decision-making and political culture. The former is fixed in legal text or documents, while the latter rules describe how the political game should be played. Studying a policy analysis from the rules dimension is helpful for evaluating the effect of the introduction of new rules (Liefferink, 2006). In the Netherlands, formal rules are often fully controlled by the government. Interesting is to see what laws were essential in the housing projects and what informal rules were present.

Discourse

Political problems are socially constructed, the narrative in which it is discussed determines if a situation is perceived as a political problem (Hajer, 1993). The discourse dimension can be relevant on two different levels (Liefferink, 2006). The first level is about general ideas on the organisation of society and the preferred mode of governance. This first level connects to the previous chapter on the government participation ladder. The second level is about the concrete policy problem that is at stake. The policy discourse is how meaning is given to a policy domain (van Tatenhove & Leroy, 2000). It consists of storylines and visions linked to the methods or uses. Policy discourses are about the character of the problem and give meaning to environmental problems. If a group of people shares the same social construct, it can be seen as a discourse coalition (Hajer, 1993). Constructing political problems is very significant to the political process because actors try to compel their view of reality on other actors. A discourse can be seen as a set of ideas and concepts which give meaning to a real-world phenomenon (Wiering & Arts, 2006). The discourse will be repeatedly communicated to influence the social environment. Interesting for this research is to investigate how the actors see nature inclusive building.

Resources and power

The division and allocation of resources is another characteristic of a policy arrangement (van Tatenhove & Leroy, 2000). The distribution of power changes as a result of the changing interrelations between state, market and civil society. Resources are generally not equally distributed among policy actors, power is about the uneven distribution of resources (van Tatenhove & Leroy, 2000) (Wiering & Arts, 2006). The relevance of resources may vary

depending on the setting and time span. Actors are to different degrees depending on each other for resources. Certain resources can be introduced or withdrawn from policy arrangements by subsidies, taxes or production of particular expertise (Lieverink, 2006). It can be questioned if the actors use their capacities to achieve their desired outcomes (Wiering & Arts, 2006). In the light of nature inclusive developments, the actors need to use resources in housing projects. These resources can consist of for example hours of work, knowledge, and money.

Actors and Coalitions

Analysing a policy arrangement can be done by identifying the relevant actors and their influence on the process (Lieverink, 2006). A distinction can be made between central actors and more peripheral actors. Actors that fulfil similar roles can be clustered. It is about who is involved in the decision-making process and how these actors interact (Wiering & Arts, 2006). A coalition consists of multiple players that share interpretations of a policy discourse or resources (van Tatenhove & Leroy, 2000). Multiple actors who share the same social construct can be seen as a discourse coalition (Hajer, 1993). In this research, the policy coalitions will be studied from a strategic point of view. The policy coalitions will be studied from the perspective of the strategic conduct of the actors. Actors who share a policy coalition do this as a strategic move to achieve their goals. Actors look for partners that share policy interpretations and with whom consensus can be reached. In the light of nature inclusive developments, a coalition can be seen as a group of players that share their resources, discourse or policies. It is interesting to discover what actors are involved in the process and who are the central actors and the peripheral actors.

This research will explore if these policy dimensions are used and in what way they influence the transition to nature inclusive building.

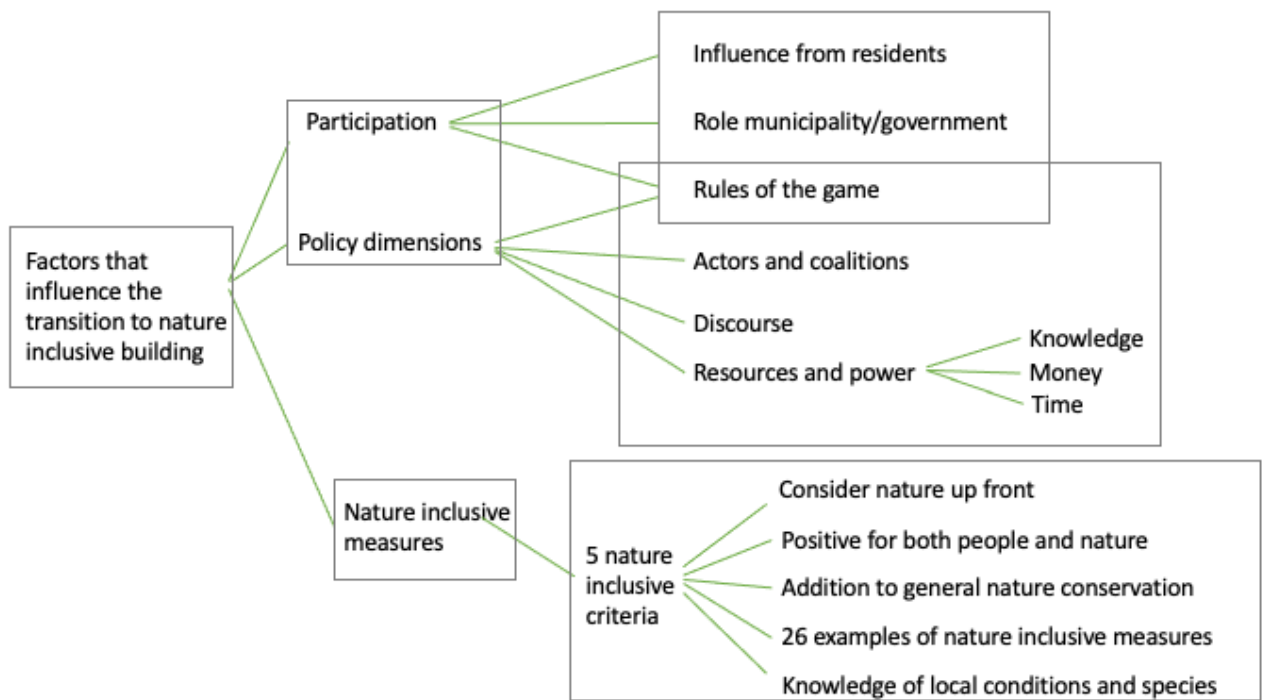
Conceptual framework

The concepts of the conceptual framework are derived from the main ideas, concepts and arguments of the literature discussed in the theoretical framework. The theoretical framework covers the factors that can influence the transition to nature inclusive building.

The concept of participation is backed up by the argument of Rotmans (2005) that transition management has participation at various levels and is a multi-actor process. There are multiple ways of looking at participation. On the one hand the opinion and influence of the residents, as showed by Arnstein (1969) with the participation ladder. On the other hand, the role of the municipality or other government can play a part in participation, as showed with the government participation ladder by ROB (2012). Rules of the game is in the theory section discussed as a policy dimension, but it can also be seen as an addition to the role of the municipality/government. The extend of government control can be related to the number of formal rules.

A policy arrangement can be seen as the concept that links long-term processes of political change with specific policy making processes (van Tatenhove & Leroy, 2000). The policy dimensions are part of the conceptual framework because the transition to nature inclusive building needs change. Policy making processes can influence the transition to nature inclusive building.

Next to the policy-oriented concepts, to identify factors that influence the transition towards nature inclusive building, it is important to look at the nature inclusive measures in the neighbourhood. As discussed in the theory, nature inclusive building consists of multiple factors. Multiple factors determine if a neighbourhood is nature inclusive.



Methodology

The research design explains the choices in the execution of a study and the methods and techniques that will be used (van Thiel, 2007). The research strategy is the overall design or procedure that will be followed and needs to measure up to the required information to answer the research question. This study aims to explore the transition towards nature inclusive developments and to determine social, political and economic factors that positively influence this transition. Therefore, information is needed from different actors who are involved in the transition process. Case studies are often used for a research problem that will be explored, described, diagnosed, designed, or evaluated (van Thiel, 2007) (Harrison, Birks, Franklin, & Mills, 2017). To explore the transition to nature inclusive developments, a case study research that is explorative of nature will be conducted. This case study will explore the decision-making process, the policy dimensions that are used in this process, and what nature inclusive measures are taken. A case study provides the opportunity to analyse the transition in-depth and identify specific factors that positively influence this transition. Case study research aims to understand an issue from participants' perspectives through an in-depth analysis of the issue (Harrison, Birks, Franklin, & Mills, 2017). The transformation towards nature inclusive building involves multiple actors with their own views and perspectives on the subject. A case study provides the opportunity to learn about these perspectives and have an in-depth analysis of the factors that influence the transformation. This research will use a comparative case study to analyse the similarities, differences, and patterns across cases. Comparative case studies are often selected when there is a need to explain how the context influences the success of policy initiatives (Goodrick, 2014). A comparative case study analysis will be used to identify the differences between the development of a nature inclusive neighbourhood and a regular neighbourhood. This comparative analysis can give insight into the differences in the decision-making process and the nature inclusive measures between both neighbourhoods. A comparative case study uses an iterative analysis of each case. Hereafter, a final comparison is made of emergent themes and explanations (Mills, Durepos, & Wiebe, 2012). Sometimes, the unique characteristics of a case only become apparent when comparing it to a case with different contexts.

Research philosophy

Many other methodologies have specific ontological, epistemological, and methodological positions that guide the research process. However, a case study does not have a fixed philosophical position (Harrison, Birks, Franklin, & Mills, 2017). This provides the researcher with some freedom in deciding the methodological orientation.

Worldviews can be seen as a general philosophical orientation about the world and the nature of research of the researcher (Cresswell, 2014). Worldviews can also be called research paradigms (Guba & Lincoln, 1994). Guba & Lincoln set out four paradigms, which can be seen as a set of fundamental beliefs: positivism, post positivism, critical theory, and constructivism. The research paradigm of this research is constructivism, where the idea is to understand behaviour through the perception of individuals. This research examines the complex process of change in which actors act based on their ideas and policy strategies. Social constructivists believe that individuals develop subjective meanings of their experiences (Cresswell, 2014). These meanings are varied, and the researcher looks for the complexity of these views instead of narrowing views into categories. The ontological belief of constructivism is that realities depend for their content on the individual persons or groups holding the constructions (Guba

& Lincoln, 1994). The findings are created by both the researcher and the researched. The researcher also recognises that their background will shape their orientation (Cresswell, 2014). Qualitative research methods are suitable to find the subjective ideas of different actors.

Cases

The term nature inclusive originated in the Netherlands, and much research on this topic has been done in a Dutch context. The Dutch government has the vision to become more nature inclusive. A recent study from Wageningen University surveyed companies in the real estate sector to determine the role of nature inclusive building in this sector (van Haaster-de Winter, Dijkshoorn-Dekker, Polman, Mattijssen, & Kortstee, 2020). A case study provides a more in-depth analysis of the companies in the real estate sector and every other actor involved in the transition towards nature inclusive developments. As mentioned before, there is a significant housing shortage, and people are moving towards the east of the Netherlands. There is an increasing demand for houses with a green area and more space. The Housing Deal of the region Zwolle-Deventer shows that many houses need to be built in this area. More and more houses must be built, to avoid a decline in biodiversity, nature inclusive neighbourhoods can offer a way out. In addition, the environmental vision of Overijssel states that they want to increase the biodiversity and at the same time promote the accessibility of nature (Overijssel, 2018). Cities need to be connected to nature areas and need to be developed as 'gates' to nature. Nature inclusive neighbourhoods might serve as these gates to nature. A case in Overijssel is very characteristic because of the need for new houses and the environmental vision of the province.

The case Olstergaard is set out to be a nature inclusive neighbourhood. This case is selected on the following requirements:

- The project is licensed, the land-use plan has been adjusted to the new purpose
- The project is of any size, not just one building
- The project is a clear example of a nature inclusive development

Another case is selected in the same municipality to investigate the difference between this nature inclusive neighbourhood and a regular neighbourhood. To compare cases, they must demonstrate enough commonality (Mills, Durepos, & Wiebe, 2012). The case Noorder Koeslag in Wijhe can be compared to the Olstergaard because it is situated in the same municipality, the project is licensed, and it is of a comparable size.

First, the cases are analysed one by one, and hereafter the cases will be compared. When comparing Olstergaard to Noorder Koeslag, similarities and differences can be analysed. To answer the main research question, it is interesting to get to know both the similarities as well as the differences to find out which factors positively influence the transition to nature inclusive building.

Data collection

Interviews

Using multiple methods for data collection and analysis is encouraged in case study research. Together, these methods will provide a more comprehensive view of the issue (Harrison, Birks, Franklin, & Mills, 2017). Reliability and validity can be enhanced by using triangulation (van

Thiel, 2007). This research will use a triangulation of research methods within the case study. For more general information about the case and the players, document analysis will provide the right insights. However, to really get to know the opinion of the different players involved with (nature inclusive) developments in both Olstergaard and Noorder Koeslag, interviews will be held with representatives of the players. For the inhabitants, it is not easy to find one representative. Therefore the residents are invited to a focus group interview. Next to that, my own internship at the municipality of Olst Wijhe is a form of observation.

Interviews can be structured, semi structured or open (van Thiel, 2007). Interviews provide the chance to go more in-depth on specific topics and provide the possibility to ask follow-up questions. Next to that, Interviews can be very flexible, and the researcher can ask supplementary questions for a better understanding during the conversation. The only fixed item in the open interview is the first question that opens the conversation (van Thiel, 2007). The respondent is entirely free as to how to reply to that question. The more open-ended questions, the better they are to identify the participants' meanings (Cresswell, 2014). Qualitative interviewing is meant to derive interpretations from respondents. This type of interview is aimed at understanding the meaning of the experiences of respondents. In this research, semi-structured interviews are conducted as a primary source of data collection. In the semi-structured interview, an interview manual is used as a guideline for the interview. The interview questions of this research are based on the theoretical framework. Not all questions are the same for every interviewee. Therefore, an interview manual has been made for every interviewee. Some questions may be the same, while others may differ per interviewee.

Some actors were involved in both cases, they are interviewed once with questions about both cases. The interviews are presented in the table below.

Interviewees	Case
Project manager of municipality Olst-Wijhe	Olstergaard, Noorder Koeslag
Representative of the housing corporation Salland Wonen	Olstergaard, Noorder Koeslag
Urban designer from the office SVP SVP	Olstergaard
Ecologist from Ecogroen	Olstergaard
Policy developer of the province Overijssel	Olstergaard, Noorder Koeslag
Project developer from Roosdom Tjhuis B.V.	Noorder Koeslag

Table 5 Interviewees per case

Next to the individual interviews, a focus group interview is conducted to get to know the residents' opinions regarding the nature inclusive neighbourhood. Five residents participated in the focus group interview. With a focus group interview, it is possible to explore the experiences of several residents. This is more representative than just interviewing one resident and less time consuming than holding several independent interviews. In a focus group interview, the residents can react to each other, and it is easy to see if they agree with each other or if they have different opinions. As a guideline for the focus group interview, several statements were presented to the residents. The residents could indicate if they agreed or disagreed with the statement and give an explanation on their thoughts. The residents also got the opportunity to react on each other and have a small discussion.

Observation

Conclusions and results can be drawn from the observations and interpretations of the researcher through the research method of observation. The degree to which the researcher participates actively in the research situation determines the type of observation (van Thiel, 2007). The degree of structuring can also differ from a structured format to an open format. In a structured observation format, the acts and behaviours that will be observed are decided beforehand. These categories are derived from the theory. In the semi-structured approach, more categories can be added to the scheme during the observation phase.

If the researcher takes part in the research situation and maintains close contact with the units of study it is called participant observation. With participant observation, the researcher participates in daily activities and studies people's behaviour. Extra information can be gathered on the spot by asking them why they behave in a certain way (van Thiel, 2007). Participant observation is thus more than observing people, everything a researcher sees in the observation phase can be relevant. This could also be documents, conversations, or events. Different aspects will become apparent when using observation as a method compared to interviews. People might act differently in an interview setting, and what they say might not always be the same as what they actually do. For this research, a structured observation format is used with categories that are derived from the theory. Meetings about housing developments of the municipality with other parties will be observed. Also, a round table meeting with representatives from several municipalities and provinces for a research at the initiative of the national government. These observations hopefully provide new insights in the factors that influence the transition to nature inclusive building.

Reliability

The reliability and validity are enhanced by using triangulation in the research. Notwithstanding that the reliability can still be compromised. Data collection through interviews is flexible. The researcher can ask supplementary questions during the interview to get a broader understanding of the answers. This flexibility, however, can compromise the reliability of the research because each interview is different (van Thiel, 2007). The interviews cannot be conducted exactly the same, which is also not the goal of this research.

Because of my own internship at the municipality, it might influence my perception as a researcher. I am not able to look entirely objective to the projects. Because it is a small municipality, the interview with a representative from the municipality might also not be entirely objective. However, the internship gives the unique possibility to observe the project from the inside. Because of the internship, it is easier to ask more follow-up questions to the interviewee of the municipality.

When making observations, the researcher consciously or unconsciously chooses what to note down and what not (van Thiel, 2007). It is not always possible to observe all events and behaviours in a particular situation, leading to a certain degree of selectivity. Next to that, the expectations of the researcher can influence the observations and the interpretation of behaviour. A research protocol can help to limit such effects.

Data analysis

Research with qualitative data consists of three phases which are often iterative or cyclical in character. These phases are: collecting data, ordering data and the actual analysis (van Thiel, 2007). Although the process is iterative, it is still crucial to take a systematic approach. In this research, the data is collected through transcribing the interviews and the observation scheme. The interviews are recorded, with the permission of the interviewees, and transcribed. The observation scheme includes notes from significant meetings. The data is ordered through coding; codes and labels are assigned to the pieces of information. Coding categorises the data, which makes it easier to analyse at a later stage. The codes correspond to the operationalisation of the conceptual framework. The coding program ATLAS.ti helped to give a structured overview of the data concerning the topics of interest.

Introduction to the cases

The municipality Olst-Wijhe

The municipality Olst-Wijhe is a small municipality in the province of Overijssel in the east of the Netherlands. In 2020 the municipality counted 18.252 inhabitants (Inwoners per gemeente, 2020). The municipality has multiple villages, the two most significant are Olst and Wijhe. Olst and Wijhe have been labour villages for years, hidden behind the river IJssel. The landscape is very characteristic for the municipality, and they like to hold on to the areas with cultural-historical value. Currently, the region is attracting more and more visitors and new residents who appreciate the countryside (Gemeente Olst Wijhe, 2014).

In 2010 the municipality established a sustainability vision for 2010-2020. This document states that there has been motivation to make the existing and new housing stock more sustainable for some time (Gemeente Olst Wijhe, 2009). Communication and subsidies are measures from the municipality, but the fact remains that owners must take their responsibility to make their house more sustainable. Sustainability should become integrated and accepted in the municipal organisation, there has to be more support, and everyone should become aware of the necessity of sustainability (Gemeente Olst Wijhe, 2009). The province Overijssel decided that in the explanation of the land-use plan, it must be substantiated that the new developments contribute to strengthening the spatial quality of the current area characteristics (Gemeente Olst Wijhe, Ruimtelijke Kwaliteit 'de kunst van het verleiden', 2014).

In the Salland region, which consists of the municipality of Deventer, Raalte and Olst Wijhe, there is a net housing demand of over 4000 houses for the period from 2016-2026 (Stec Groep, 2016). In the housing vision for Olst Wijhe 2006-2015, the municipality wants to pursue an active policy in the field of housing, aimed at the growth of the number of inhabitants and the housing stock. The neighbourhood Olstergaard and Noorderkoeslag contribute to the growth of the housing stock in the municipality.

The ladder of sustainable urbanisation is an essential tool that must be used with new housing projects (Stec Groep, 2016). This ladder implies that new housing projects must conduct an investigation. The investigation is about the regional housing need, whether this need can be met within the urban area, and if the location is accessible.

The province Overijssel

The national government is responsible for the national policies, but provinces are responsible for interpreting and implementing nature policies within the provincial boundaries. Provinces can decide if cities can expand, they realise new nature areas, and are responsible for preserving current nature. The province of Overijssel is trying to draw attention to nature inclusive construction with the project 'Natuur voor elkaar' (nature for each other). With this project, many different parties join forces to connect people with nature and make the province of Overijssel greener (Natuur voor elkaar, sd).

Olstergaard

Olstergaard is a new build neighbourhood in the municipality of Olst Wijhe, in the city of Olst. It is not an average neighbourhood since it especially pays attention to climate, nature and

health. Olstergaard is known as a unique neighbourhood for the future and has been called an experimental garden. The public space and the houses are developed based on a nature inclusive and circular design. The ambition for the neighbourhood is Olstergaard in balance. Five core values contribute to this ambition: nature inclusive, circular, spatial quality, climate-resilient and sustainable. The green character of the neighbourhood connects the village with the rural areas just outside the village. The ambition is to make the neighbourhood circular; the residents must use as much as possible recycled materials. A water system in the gardens, streets and wadis will keep the rainwater as long as possible in the area. This results in a landscape environment and will add to the increase of biodiversity. The public space is designed in a nature inclusive way.

The land-use plan of the Olstergaard is irrevocable since 2020. The plan consists of 51 individual (detached or semi-detached) houses, 14 social rental houses by Sallandwonen and 9 to 12 houses by CPO Grijs en Groen. CPO Grijs en Groen is a group of residents who will realise a housing project through collective private commissioning.

The neighbourhood is divided into three spheres which have their own rules. These three spheres are: naturally cultural-historical, naturally nutrient-rich, and natural ecological. The spheres have their own rules in the area of nature inclusive measures, circular measures, spatial quality, climate resilience and sustainability. Residents can make their own plans and design their houses within the rules of the sphere where they will be living. Because of problems with the nitrogen permit and because of weather conditions, the site preparation for construction got delayed. The site should have been ready for construction in March 2021. However, in May 2021 the permit for nitrogen got definitive and the construction could start.



Figure 5 Plots Olstergaard)

Noorder Koeslag

Noorder Koeslag is a new neighbourhood in the municipality Olst Wijhe. It is a spacious neighbourhood with attention to water and green areas in the city of Wijhe. The residential area is being developed in four phases. For this case study, only phase 3 of the neighbourhood will be analysed. For the whole Noorder Koeslag area, a land-use plan was made in 2007. However, phase 3 had to be elaborated in an elaborated land-use plan later. The elaborated land use plan is divided into two parts as well; one has been made irrevocable in 2018 and the other one in 2019. The planning area has the size of 4 hectares. There will be a maximum of 94 homes in different housing types, these are detached houses, terraced houses and semi-detached houses. Some of the lots are owned by the municipality, these lots are sold as free lots to private individuals. The other lots are sold to a project developer and a housing corporation. The homes of the project developer are completely gas-free. The municipality has prepared the grounds for construction. The most significant players involved in this project are the municipality, construction company Roosdom Tjhuis B.V., housing corporation Sallandwonen and the residents. Noorder Koeslag is especially attractive for young couples and young (single) starters, not for seniors. The neighbourhood is bicycle- and pedestrian-friendly. Greenery does get attention in this neighbourhood, but it is not meant to be nature inclusive. The neighbourhood Noorder Koeslag is especially attractive for young families who are looking for a family home. Most residents previously lived in Wijhe or Zwolle.

For detached and semi-detached houses, the parking norm is 1,7 parking lots per house. For row housing and apartments, the parking norm is 1,5 parking lots per house. The residential area faces outwards, towards the open spaces on the outside of the plan area. The neighbourhood is divided into a number of areas that have their own identity and atmosphere. A park is developed right next to phase 3 of Noorder Koeslag, with a vision of a natural playground.



Figure 6 Plots Noorder Koeslag Phase 3

Results: nature inclusive measures

As shown in the theory chapter, there is no one definition of nature inclusive building. Multiple concepts add value to something being nature inclusive or not. Five concepts that derive from theory were analysed: considering nature upfront, positive outcomes for both nature and people, an addition to general nature conservation action, 26 examples of nature inclusive measures and knowledge of the local conditions and local species. This chapter will present the results and provide an answer to the sub research question: What nature inclusive measures

Olstergaard

Nature is considered at the start of the project by analysing the possibilities to give nature more space in the design. According to the urban designer, in the beginning they tried connecting green in the design of the Olstergaard to the existing green structures of Olst.

According to the ecologist, the species management plan is just for the exemption of species, while the research that has been done for the Olstergaard gives a broader picture of the environment and local species. The urban designer said that the Olstergaard suits very well within the environment. They created a structure of green that corresponds to the green structures of the surrounding neighbourhoods. The quality team reviews the plans of the residents to ensure that the species are indigenous and fit with the permaculture. The plans focus on the animal and plant species that are already present in the area. The ecologist and the urban designer agree that they have analysed the local conditions and species and applied the measures according to this analysis.

According to the urban designer, it is essential to look from the nature perspective to the environment instead of always looking from a human point of view. One of the core values of the Olstergaard is that people and animals live in harmony. In the development plan, the ambition for the Olstergaard is balance. At the Olstergaard, people, animals and plants should fit entirely in their environment. A food landscape is created where both people and animals can enjoy.

The residents must apply quite some nature inclusive measures, which the quality team has to approve. Residents have to apply local hedge species on the property's boundary, ecological connections, a food landscape with four, five or six layers of permaculture and no use of pesticides or crop protection products in the vegetable garden. Per living sphere, they can choose three or four out of five nature inclusive measures. The nature inclusive measures they can choose are:

- Offer a nesting facility for swallows if sufficient height and correct orientation are possible.
- Install bat enclosures in walls at the height of at least three meters, no plants in front of the entrance opening and orientation on the west, east or south side.
- A birds loft under tiled roofs or gutter at the height of at least 3 meters, and orientation on the north, east or west. Planting in the vicinity of the entrance openings cannot be restrictive, so do not put trees in front of the entrance.
- An insect hotel in the façade or a natural tree trunk on a sunny location

- In the case of a flat or green roof, offer a breeding facility for a white wagtail or a black forest tail.
- At least on one side of the house must have facade planting with edible species.
- Use fruit shrubs/hedges, willow or pruning waste for green (ecological) connections.
- No property separations, or use local hedge species

Some animal species do not need specific measures and they have been taken into account in the planting scheme and the design of the public space and gardens. Next to that, the public area is designed in a nature inclusive way. A system of ditches and wadis causes a wet environment and an increase in biodiversity. It is important to always leave some water in the wadi for the frogs and salamanders. A green edge around the neighbourhood will be fairly dense, with a more open character on the south edge. Certain plant species will be planted that provide habitat for birds, hedgehogs, and the stone marten. Some fruit trees are planted together with a nesting box for the little owl. In addition, there will be insect facilities like insect hotels or dead wood and loam bumps. The pathways through the neighbourhood are embedded with flowers and will be managed extensively to create a natural atmosphere for bees, butterflies and other insects. The street lightning has a more friendly colour for the animals.

Three lines form the basis of the ecosystem in the Olstergaard, a northern, middle, and southern line. Each line has its own fundamental nature inclusive measures. The northern line consists of hedges and other plant species that form the habitat of the stone marten. Next to that, it includes big trees for birds and dense vegetation for sparrows and facilities for insects. The middle line partly consists of trees that are already there, and these will be added with edible plant species. Birds and bats use this line as a flight path. The southern line aligns plant species to the orchard. Nesting boxes will be applied for the little owl, which already occurs in that area. Next to that, nesting boxes for the kestrel are an addition to the area.



Figure 7 Three nature inclusive lines in the Olstergaard

The majority of the focus group interview participants were able to point out many nature inclusive measures that they include in or around the house. The measures that the residents apply are:

1. Nesting stones for birds	2. Bat boxes
3. Hotels and stones for insects	4. Green roof
5. Brown roof	6.
7. Green facade	8.
9. Nature playground	10. Water drainage through filtration
11. Pond	12. Amphibian pool
13. Hedge	14. Flowery tree mirror
15. Ecological banks	16.
17.	18. Wall of wilderness
19. Butterfly and bee idyll	20. Connection to ecological structure

Table 6 nature inclusive measures in and around the house of the focus group participants

Including the measures that are taken in the public space in the scheme leads to even more measures.

1. Involve courtyards (RVO)	2. Plants, shrubs and trees (RVO)
3. Green structure and parks, species oriented (RVO) pocket parks (Klasberg, 2018), tiny forest, fauna passage (Econsultancy, sd)	4. Involve private outdoor space (Klasberg, 2018) (RVO)
5. De-stoning (RVO) (Econsultancy, sd), permeable pavement, mudflats (RVO)	6. Bat friendly lightning (Econsultancy, sd)

Table 7 nature inclusive measures in public space

Noorder Koeslag

The design of the Noorder Koeslag is based on the demand from the residents. There are no nature inclusive measures, and they have not considered applying any. However, the Noorder Koeslag is spacious and green with a ditch through the neighbourhood. According to the municipality's project manager, the idea behind this green is not for biodiversity but for a pleasant living environment. According to the interviewee of the housing corporation, their houses at the Noorder Koeslag have facilities for bats and swifts, and under the roof, space for house sparrows. The project manager of the municipality said that they are now developing a park and nature playground next to the Noorder Koeslag which is going to be nature inclusive.

The project developer agrees that nature should be taken upfront instead of compensating for it later. However, he indicates that they only have control over the buildings until they sell the houses to the customer. The house owners hereafter can do whatever they want with the house.

General

Actors at the round table suggested that it is essential to look at nature inclusive measures at the beginning of the project. Now it is often the case that nature inclusive measures are discussed at the end of a project.

Most participants agreed that living in a green environment is not only good for biodiversity, but people also benefit from a green and spacious neighbourhood.

The representative of the housing corporation has told a lot about the species management plan. This plan, however, is required to substantiate an application for exemption from the Nature Conservation Act. Based on the species management plan, the housing corporation applies nature inclusive measures to a greater or lesser extent. This means that it is not an addition to the general nature conservation actions. According to the interviewee of the province, the species management plan covers all damage to existing species upfront.

The urban designer feels like the green structure in a neighbourhood is very important. It is possible to apply nesting boxes at a house, but if a bird cannot find food in the neighbourhood, he will not nest there. The ecologist also feels like it is crucial to design the public space in a nature inclusive way.

Results: the use of policy arrangements in housing developments

This chapter presents the analysis of policy documents, interviews and observations. It presents the data needed to answer the research question and sub research questions. This chapter will show the use of policy arrangements in the transition to nature inclusive developments. It will show the use of policy arrangements in the Olstergaard and Noorder Koeslag. Finally, this chapter will answer the sub research question *what policy arrangements are used and how does this influence the development process?*

Actors and coalitions

There are multiple actors involved in a housing project, and these actors have a different amount of influence on the process. Therefore, a distinguishment can be made between central actors and more peripheral actors.

Olstergaard

The municipality can be seen as a central actor in this housing project. The municipality came up with the idea of a nature inclusive and circular neighbourhood, and they set up a residents' group to help create a vision. About forty people signed in for the residents' group and helped to design the plans. The municipality and the residents' group started designing the neighbourhood together with the help of urban planning office SVP, ecological consultancy Ecogroen and landscape architects Haver Droeze.

The residents' group can be seen as a central actor. The municipality sees the relationship with the residents as cooperation, the residents had much influence on the original plans. The residents have come up with many ideas that the municipality would not otherwise have thought of. However, the municipality's project manager notes that the residents' group is not one representative party; the group consists of forty individuals with their own opinions.

In all cases, the residents that participated in the focus group interview indicated that they want to live in the Olstergaard because it is a nature inclusive neighbourhood. They are consciously involved with nature, and most of them like the idea of a community of people with the same interest in nature and sustainability. Therefore, the residents formed a coalition in the residents' group where they make informal decisions and collect knowledge together.

The actors that belong to the quality team can be clustered; the quality team is a coalition of people from different agencies. These are an urban planning office, a landscape architect, and an ecologist. The quality team has many responsibilities, including assessing the plans of the residents and making rules. Therefore, the quality team can be seen as a cluster of actors who have a common interest. The quality team can be seen as a central actor because they make the final decision if a plan gets granted or not. However, the individual actors that belong to the quality team can be seen more as peripheral actors because individually they have less influence on the project. Although, according to the project manager, they did help a lot in guiding the design process. The quality team meets once every two weeks to discuss the plans that are submitted. Within the quality team, they treat each other as equals. All informants agree that the cooperation within the quality team and between the quality team and the

municipality went well. It was suggested that the members of the quality team have their own field of expertise and they can complement each other very well.

The housing corporation Sallandwonen can be seen as more of a peripheral actor since they follow the rules of the project and do not actually make decisions on the project. Sallandwonen must follow the rules set by the municipality and has to run the plans by the quality team. The residents from the housing corporation did not come to the Olstergaard specifically for the nature inclusive character of the neighbourhood. The corporation has a housing allocation system, and they cannot prioritise residents interested in the character of Olstergaard. According to the project manager of the housing corporation, the residents often live on a low salary, and they frequently have trouble paying rent.

The province can be seen as a peripheral actor, they did help to realise the Olstergaard by providing money and knowledge, and they approved the land use plan. However, they did not directly influence the project. They do have a network of actors that are interested in nature inclusive building, they connect these actors and give them a platform to share knowledge.

Noorder Koeslag

The municipality and the housing corporation were also involved in the Noorder Koeslag. The municipality is a central actor in this project because they set rules for the neighbourhood and developed the public space. In contrast to the Olstergaard, this project involved a project developer. The project developer Roosdom Tjhuis b.v. can be seen as a central actor in the Noorder Koeslag housing project. They have had much influence on the project and made many decisions. The project manager of the municipality feels like the project developer wanted to get the most out of the project. The municipality would not define the relationship with the project developer as cooperation. It is more like the project developer submits ideas to the municipality, but they do not make a joint plan. The project developer has experienced the relation with the municipality to be formal on one hand and informal on the other. They have made several agreements together that they adhere to. In the end, the project developer feels that the municipality has the most influence, partly because they also bear the risks. However, he feels like most decisions have been made in good consultation with the municipality and the housing corporation.

The residents of the Noorder Koeslag can be seen as peripheral actor because they did not have much direct influence on the project. However, according to the project developer, the residents are essential in the transition to nature inclusive building. He indicates that the project developer only has influence until they deliver the house to the customer. Hereafter the house owners can do whatever they want with the house.

The housing corporation can be seen as a peripheral actor at the Noorder Koeslag, they do have some houses on the terrain, but they did not have a big influence on the project. They have to follow the rules that are set by the municipality and the project developer.

General

Municipalities are often a central actor in housing developments. At the round table meeting, the participants distinguished two kinds of municipalities: the frontrunners and the peloton. The frontrunners have experience with nature inclusive building, and they have quite some

knowledge about the subject. The peloton does not have this experience or knowledge yet but is interested in gaining it. The frontrunners can help the peloton by sharing their knowledge and experience. However, it is difficult to give something back to the frontrunners. The frontrunners want to keep going, but they only give away information and knowledge and do not get anything in return. Therefore, it is essential that frontrunners can pass information to the peloton without much effort. According to the interviewee of the province, their role in nature inclusive building is to facilitate. They try to inspire and seduce people to build more nature inclusive. They also give municipalities a platform to share their knowledge. The national government is also mentioned several times as an actor in nature inclusive building.

Next to municipalities, residents can play an essential role in nature inclusive building. According to the interviewee of the province, the residents should be seduced into taking nature inclusive measures. People who are currently interested in nature inclusive developments belong to a specific group of people who already care about nature and are interested in their environment. She thinks that most people who live in Overijssel are not interested in nature inclusive building.

Sallandwonen participated in a coalition with the province of Overijssel and some other parties (housing corporations and construction companies) to create a species management plan. This plan involves the inventory of animal species present in a larger area. These investigations were carried out by an ecological consultancy together with volunteers. Based on results from these investigations, measures for the specific species present in that area will be taken. According to the housing corporation, the municipality is not yet involved in this coalition because they do not have a direct financial advantage. Many municipalities have to deal with cutbacks.

Discourse

A policy discourse is a set of ideas and concepts which can give meaning to a real-world phenomenon or environmental problem. Policy discourses are about the character of the problem and consists of storylines and visions. The actors involved in the neighbourhood development have their own view on nature inclusive building. This chapter shows the views of the different actors on nature inclusive building.

Discourse Olstergaard

The interviews and observations made clear that there is overall a positive attitude towards sustainability and the environment in the municipality Olst-Wijhe. The Olstergaard is situated between the Earth Houses and the Friendlyard, two sustainable living projects. The municipality wanted to align the neighbourhood with the former landscape, so they started by looking at the historical value of the landscape and tried to connect the new neighbourhood to the historical value. According to the municipality's project manager, they want to meet the needs of people who want to build a sustainable home at an attractive location. The municipality has other projects, next to the Olstergaard, that show they are involved with sustainability, such as the Earth Houses and the Friendlyard. According to the urban designer, the current sustainable projects in Olst contributed positively to the vision of creating the Olstergaard as another sustainable neighbourhood. The project manager said that the vision of Olstergaard was composed around 2018, and sustainability and nature inclusive were the main themes. When creating the plans for the Olstergaard project, only a limited number of

houses were allowed to be built. According to the project manager, this contributed to the idea of creating a neighbourhood for a "niche market", which in their eyes would be a nature inclusive and circular neighbourhood. A workgroup at the municipality came up with the initial idea of making the neighbourhood nature inclusive, but they needed the support of the board. According to the project manager of the municipality, a project can depend on the board of the municipality and the alderman, because they have to find sustainability and nature inclusive building an important theme. Whether the municipality can realise a project is up to the mayor and aldermen, they must approve the plans. At the time, the mayor and aldermen thought sustainability was an important theme, so the plans for the Olstergaard were approved.

The ecologist feels like people at the municipality are very enthusiastic about the project, which significantly helped with realising the project. The urban designer feels like there was a particular drive to create the Olstergaard, and the people who participated in the process really wanted to make it nature inclusive. According to the municipality's project manager, residents of the Olstergaard are motivated to live there because they are interested in the vision and the nature inclusive concept of the neighbourhood. Most residents want to live sustainable and nature inclusive, and they are generally more concerned with sustainability.

However, not everybody in the municipality feels the same about sustainability and nature inclusive building. Some municipal employees find alternative forms of housing such as tiny houses complex and prefer things to be 'normal'. Next to that, some respondents feel like the maintenance department of the municipality still thinks in a traditional way. For example, it is unnecessary to mow the grass that often, but that is how it has always been, and it will not change easily.

According to the ecologist, nature inclusive building involves a certain way of thinking about nature and finding the balance between people and nature. The Olstergaard revolves around the nature inclusive vision for the neighbourhood. The municipality is open to learning from the experiences of the Olstergaard. Although they say the next neighbourhood does not have to be this extreme, they want to take the lessons learned from the Olstergaard.

The interviewee of the housing corporation feels like informing the residents about nature inclusive measures is fundamental. The benefits must be clear to the residents. Otherwise, they will not understand that the housing corporation spends money on these measures. The target group of the housing corporation must live on a low salary, and they often have trouble paying rent. Therefore, the housing corporation has to justify why they spend money on nature inclusive measures.

Discourse Noorder Koeslag

According to the project developer, the original plans for the whole Noorder Koeslag area are from around 2008. At that time the term nature inclusive was not yet a well-known concept. The municipality's project manager agrees that there are no nature inclusive measures in the Noorder Koeslag because the term nature inclusive was not yet known at that time. Despite the land use plan for phase three being made in 2018, around the same time as the Olstergaard project, the municipality's project manager said there was no new vision for the project. The municipality continued in the spirit of the old plans and did not contribute any

nature inclusive measures to the project. At the time of the new land use plan, there was more and more demand for houses on the housing market. This meant that the houses would sell either way.

In the Noorderkoeslag the assignment was to make a profit and build for the ordinary people of the community. According to the project manager of the municipality, this causes another way of thinking, working, and designing. The municipality made more profit in this neighbourhood because it is less spacious, and more houses fit on the land. The project manager of the municipality feels like the Noorder Koeslag was built for another target group than the Olstergaard. Most residents of the Noorder Koeslag want the neighbourhood to be ordinary. Although the public space is not designed nature inclusive, the project manager said that they are now building a playground next to the Noorder Koeslag, which is nature inclusive.

The project developer has some experience with nature-inclusive construction but indicates that they are certainly not a frontrunner in this field. He believes there are many different definitions of nature inclusive building, and that it also depends on if you look at the individual building or the neighbourhood scale. The project developer had less influence at the neighbourhood scale because the municipality designed the public space at the Noorder Koeslag. The project developer feels that they are no longer responsible once a house is completed and delivered to the owner. From that point onwards, the owner is responsible and can do whatever they want to do with the house. The project developer said that if he delivers a house with nesting boxes, there is a good chance that the owner will remove the nesting box from the wall.

The project developer thinks it is better to properly design the public area around the houses than to add nature inclusive measures to the individual building. The municipality was responsible for the public area in the Noorder Koeslag, not the project developer. The project developer feels like nature inclusive measures are now often imposed in advance by the municipality while residents do not demand such measures. He will only add nature inclusive measures if the municipality imposes it because he thinks people do not find nature inclusive measures necessary. Especially with the current housing shortage, people are just glad if they can find a house. In the end, they design the house for the customer and not for the municipality, the project developer reasons from a commercial point of view.

According to the housing corporation, many people do not know the benefits of nature and how helpful some animals, like bats, can be. Some people might find bats scary, and do not want them in their garden. However, residents are actually not bothered by bats and can benefit from them.

Discourse general analyses

The urban designer often feels like nature is usually one of the last themes discussed in a project, while nature should get considered upfront. He thinks it is a challenge for many designers to approach a neighbourhood as a coherent system where one thing influences the other. He feels like many people have lost sight of our dependence on nature.

According to the ecologist, project developers are interested in making money selling houses, and therefore they will not come up with the idea to build nature inclusive themselves. He

also feels that it cannot be expected of residents to put effort into nature inclusive building. The municipality's project manager agrees that not everybody wants to put effort in building nature inclusive. According to the interviewee of the province, the people interested in nature inclusive building are often people who are interested in their environment, read the newspapers and have a reasonably high income, and often have an outsider lifestyle.

The urban designer feels like municipal employees at the maintenance department are often stuck in old patterns. There is a culture in the Netherlands where we like the public space to be tidy, and people will call the municipality if it is not. However, he does see a change in the municipality's attitude in the sense that they want to change to make public spaces more diverse.

Resources and power

Actors are dependent on each other for resources, and resources are generally not equally distributed among actors. Some actors might have more or fewer resources than other actors. This section presents the resources that are used in both housing projects.

Olstergaard

Money

Multiple resources can be identified in the Olstergaard project. The primary resources seem to be finances, knowledge, and time. The municipality already owned the land for the Olstergaard project. According to the project manager, the goal for the development of Olstergaard was for it to be at least budget neutral and preferably with a positive balance. This means that the proceeds from the sale of the housing plots must at least cover all plan development costs, the costs of purchasing the land and the costs of constructing the public area. The municipality could put the land in the books for the agricultural value, which was about four euros per square meter. The financial goal of the Olstergaard was to break even or create little profit. According to the project manager, this is not a common goal in the municipality since most housing projects aim to make more profit. Since the municipality did not have to make a profit on this project, it was possible to have more public greenery and civil servants could devote more time to participation.

Most interviewees agreed that financial considerations do not play a role in determining nature inclusive measures. Adding nature inclusive measures to the design does not have to be more expensive. The nature inclusive design of the public space is not more expensive than the design of a more traditional neighbourhood. According to the ecologist, costs should not be the primary consideration with including nature inclusive measures, it is mainly a way of thinking. The residents have several nature inclusive options they can choose from and must include in the design, so some residents might choose the cheapest options. Next to that, the urban designer feels like the public space design is not more expensive, but the maintenance of the public green will probably be more expensive. The maintenance costs can be kept lower by not mowing the grass that often. However, the project manager of the municipality thinks that the costs will not be higher for maintaining the public space because they can save on pavement and put this money into green and maintenance. Next to that, she thinks that the residents will put in the effort to maintain the public green because they are very involved with the neighbourhood.

Most of the residents that participated in the focus group interview feel like nature inclusive measures do not have to cost more money. There were some comments about the high costs of biobased building, but if they only look at nature inclusive measures like nesting boxes, it is not that expensive at all. One of the residents feels like nature inclusive measures do not have a financial impact, but the construction companies lack the knowledge or vision of making material nature inclusive. It will already help if there are more holes in the walls instead of a smooth surface. One of the residents thinks that if you weigh nature's benefits against the financial costs, it is not expensive at all.

According to the interviewee of the housing corporation nature inclusive measures cost a bit more, but not every measure has to cost lots of money. If these measures are considered part of the work, the costs are simply included in the construction costs. Nevertheless, in the end, it will cost more money. The representative of the housing corporation feels like it is not more difficult to obtain the materials for nature-inclusive construction, and it does not take more time to build. In assessing the plans of the contractors, money plays an equally important role as nature inclusive measures.

Knowledge

The municipality usually only needs to cooperate with an urban design office in housing projects, but with the Olstergaard they needed more knowledge to realise the nature inclusive concept. To get this knowledge, they cooperated with an ecological consultancy office and a landscape architect. Next to that, there was an intern at the municipality who researched nature inclusive building. Because Olst-Wijhe is a small municipality, they do not have their own ecologists. Some interviewees argue that it is crucial to include an ecologist in the plans because of their knowledge. In the Olstergaard, the quality team consists of representatives from the urban planning office, the landscape architect and the ecologist. They all have knowledge about their specific specialisation and bring this together in a team. The ecologist suggested that there is a difference between the municipality Olst-Wijhe and bigger municipalities like Amsterdam. These large municipalities employ five ecologists, while Olst-Wijhe needs to hire one externally.

It was suggested that the residents have many ideas on what their houses should look like, but they sometimes lack the knowledge to realise these ideas. Permits can often not be granted because the residents do not meet all the (environmental) requirements. The residents have a lot of exciting ideas, but these ideas do not always fit within the requirements. The urban designer thinks that what makes the Olstergaard unique is the knowledge that the residents already have and the preparedness to share this knowledge with the neighbours. According to the ecologist, the residents are no experts, and they often need guidance with their plans.

The residents were willing to gain more knowledge about nature inclusive building. Most of them already had some ideas, but they have learned a lot in the process. Most of the interviewed residents already had some interest in nature and biodiversity and were willing to learn more about the subject. However, one of them argued that she does have a vision for the garden, but she needs an expert to turn the vision into the design. The residents organise various meetings to inspire each other and share knowledge.

Time

Next to that, the time has played a part in the development of the Olstergaard. The municipality's project manager indicated that because of the participation project, much time has gone into communication with the residents. In addition, the quality team must check every individual plan, which costs much time as well.

Land

According to the municipality's project manager, space can play a role in the nature inclusive measures that can be taken. In the design of a nature inclusive neighbourhood, it is preferable to have much public green space. When a project aims to make a profit, more houses will be built in the same land area, leading to less public space.

Noorder Koeslag

Money

According to the project developer, the Noorder Koeslag was financially driven because they were still dealing with the aftermath of the financial crisis. This meant that they had to be sharp on the costs. The municipality was responsible for developing the public area and had to bear the financial risks. The goal for the Noorder Koeslag was to gain profit, and this meant a different way of designing. The houses in the first phases of the Noorder Koeslag were sold in the aftermath of the financial crisis, while the houses of phase three were sold when the housing market started to pick up again.

There is no financial reason for the project developer not to include nature inclusive measures. He feels like it does not cost more to build nature inclusive. Some measures might require more technical insights, but nesting boxes, for example, are a simple measure. In contrast, the housing corporation considered financial reasons as more important. They agree that nature inclusive measures do not have to cost a lot more, but they have a tight budget at the housing corporation, and the measures will cause higher construction costs.

Knowledge

Nature inclusive building is called an area of expertise by the project developer. If they have a project where they need to do more research into the nature and biodiversity, they often have to involve an ecologist. In this situation, they will collect the necessary knowledge by including different people from different expertise's.

The project developer thinks that when designing the public space, the municipality often looks at the management and maintenance of the area. The municipality must pay for the costs of maintaining the public space. The project developer feels like in many traditional neighbourhoods, it is difficult enough to balance criteria like parking, infrastructure, playgrounds, etcetera, and he feels like the green structures are less important.

General

Money

The interviewee of the province said that they sometimes help municipalities by financing a particular aspect of the project. Next to that, they provide knowledge and a platform for people to share their knowledge with each other. It was suggested at the round table meeting

that it is crucial to share knowledge. Municipalities that already have experience with nature inclusive building should be able to share their experiences with other municipalities. However, there were some negative comments about sharing knowledge because the experienced municipalities do not gain anything from sharing the knowledge.

According to actors from the round table, more information should be given to municipalities about the options for nature inclusive measures. The discussion about nature inclusive measures often comes from financial issues, but it should become clear that these measures are not expensive. The interviewee of the province feels like sometimes municipalities build more houses in the same area because they need to make more profit, at the expense of green space. She feels like municipalities have to decide together to agree with a lower profit and more public greenery. She thinks it would also help if the national government would help with finances.

The species management plan will make it even easier to apply nature inclusive measures because it is already known which species live in the area and what can be done for these species. According to Sallandwonen, the reason that the municipality does not want to participate in the species management plan is mainly financial. Many municipalities are currently looking for cutbacks.

Knowledge

Most people do not know about nature inclusive developments and often do not have an interest in them. Residents can be motivated by spreading information about the benefits of nature inclusive developments. Multiple participants suggested that residents lack knowledge about the subject and should be informed about nature inclusive building. According to the interviewee of the housing corporation, people need to be informed about nature inclusive measures and biodiversity. People sometimes do not get the benefits of the measures and therefore do not get that the corporation spends money on them. He feels like the municipality has a responsibility to provide information about nature inclusive measures to the residents. The housing corporation wants to make brochures for the tenants to explain why specific measures are applied and why they are essential for biodiversity.

Multiple respondents agreed that it is essential to include ecologists in making plans for a new neighbourhood. However, according to the urban designer, not every ecologist is suited for a project like a nature inclusive neighbourhood because they do not think at the same level of abstraction as an urban designer in a master plan.

Main findings

The main findings are summarised in the table below.

	OLSTERGAARD	NOORDER KOESLAG
ACTORS	<i>Central actors:</i> Municipality Olst-Wijhe Quality team Residents	<i>Central actors:</i> Municipality Olst-Wijhe Project Developer

DISCOURSE	<i>Peripheral:</i> Individual experts Province	<i>Peripheral:</i> Residents Province
	Vision clearly nature inclusive and sustainable	Vision for making a spacious and green neighbourhood
RESOURCE	Aim for budget neutral or little profit	Aim to make profit, sharp on the costs
	Put effort into gaining knowledge about nature inclusive building	Did not have or need to have knowledge
	Takes more time	Regular amount of time

Table 8 main findings policy discourses

Results: Rules and the involvement of the government

In neighbourhood developments, the government is involved to a certain extent. A municipality can play an active role in the land development or a more facilitating role. The municipality has more control, but also more risks, when pursuing active land policy. In facilitating land policy, the role of the municipality is limited to setting rules and supervision. Formal rules refer to the legislation and procedures, while informal rules refer to procedures in decision-making and political culture. This chapter will provide an answer to the sub research question: What is the role of the government and what rules are applied in the neighbourhood development process?

Olstergaard

The municipality bought the land for the Olstergaard project and directed the area development. This means that they have much control over the project, but they also bear all the risks. According to the project manager, the municipality took the lead at the beginning of the project because they decided to make a development plan with the residents. However, the position of the municipality changed over time, and they increasingly faded to the background. The municipality is sometimes looking for her position in the group. In the beginning, the municipality led the project, but later on they had to step back. The residents' group and the quality team can accomplish a lot together, and they do not always need the municipality to step in.

In the project of the Olstergaard both formal and informal rules can be identified. When asked about the policy on nature inclusive building, the municipality's project manager said that they do not have formal policy on nature inclusive building specifically. The municipality does have some rules for green together with the nature conservation law, but no policy links green and nature to building (houses). However, they do have a green policy plan and have won a prize for the greenest municipality.

Although the municipality does not have formal policy on nature inclusive building, they were able to enforce many rules on the neighbourhood. According to the urban designer and the ecologist, the Olstergaard is unique because of the many rules that are included in the land-use plan. There are, for example, rules on nature inclusive measures, water storage and climate resilience laid down in the land-use plan. The land use plan also states that only 20 percent of the yard may be paved, and the fencing around the yard must be green and in accordance with a list of plant species. In the land-use plan, a reference is made to the quality plan. An environmental permit can only be granted if the plan meets the requirements of the quality plan. Next to that, some rules are laid down in the contract of sale, which is a private agreement. The urban designer said that there were more rules set in stone at first, but the municipality wanted to leave some room for the residents to choose the measures. Even though the rules of the Olstergaard are strict, they are co-created together with the first residents' group. The residents must take in account the rules when designing their homes. The residents' plans for their homes need to be submitted to the quality team to check if they meet all requirements.

Some of the residents that participated in the focus group interview experience difficulties with the formal rules. The rules are stringent, and they feel like the municipality and the

quality team are not flexible in these rules. One of the residents had to pay money to be able to deviate from the rules. Some residents feel that the rules are taken too literally, and they think that it should be possible to deviate from the rules more easily. However, the ecologist feels like the quality team is not that strict because they want the residents to enjoy the process and the residents must maintain it in the end.

The municipality's project manager says that they will not check that much if the residents stick to the rules. This is because they trust the residents and feel like the residents will be responsible for keeping the neighbourhood green and nature inclusive. If someone disobeys the rules, the municipality expects that one of the neighbours will contact the municipality. However, because they have marketed the neighbourhood in a certain way, they expect the residents to abide by the rules. The residents also have the freedom to create their own informal rules. The municipality, for example, does not have a policy on wood stoves, but if the resident group agrees that they do not want wood stoves in the neighbourhood, they can decide that together. If it fits within the formal rules of the municipality, the residents can decide on their own informal rules.

The housing corporation has the obligation from the municipality to include at least some nature inclusive measures. The contractors can submit a plan, and this must meet the requirements of the quality team. When renewing existing buildings, the housing corporation already includes some nature inclusive measures, because of an obligation under the Nature conservation act to create new accommodations in the renovated house for the destroyed accommodations. However, the housing corporation is not used to having the plans checked.

According to the urban designer, the easiest way to make the transformation to nature inclusive building would be through formal policies. With governmental policy, specific rules can change faster, and the government can demand measures from other actors. However, he feels like the Olstergaard was primarily made possible by the drive and enthusiasm from people that participated in the project.

Noorder Koeslag

A farmer owned part of the land where the Noorder Koeslag would be build. He closed a deal with the project developer to build houses on that land. The municipality obtained the land by closing a "construction claim" (bouwclaimovereenkomst). This construction claim means that the municipality would own the land, but the project developer got the right to develop part of the land. Therefore, the municipality bore the risks of this project and was responsible for developing the public space. The municipality made the vision and the formal rules for the project.

The project manager of the municipality feels like they do not have a lot of formal options to make the neighbourhood nature inclusive when they develop the neighbourhood together with a project developer. They might be able to take some formal rules up in the land use plan, or they can put some rules for nature inclusive measures in the construction claim. However, the land use plan of the Noorder Koeslag does not include any rules on nature inclusive measures. They do not have rules on the amount of pavement or the fences and the types of plants that may be present. According to the municipality, this is because the project developer can submit a judgement against the land-use plan if he does not agree to the plans.

At an informal level, the municipality's project manager feels like they can try to tempt the project developer into including nature inclusive measures. However, if the project developer does not want to include them, there is not much they can do about it. Meanwhile, the project developer feels like the construction claim gives the municipality much power and he thinks that the municipality can enforce nature inclusive measures. Nevertheless, if previous agreements have been made, the project developer can still submit a judgement against the land-use plan. While the project developer also feels that he would include nature inclusive measures if the municipality would ask for it informally, although these measures should not be too extreme. In housing projects, the project developer tries to give his professional opinion about the housing market informally. However, his view is commercial, and this sometimes collides with the public interest of the municipality.

The project developer feels like sometimes the municipality imposes rules for nature and mitigating measures, but there is no demand from the residents for these measures. If nature inclusive measures are taken, the project developer feels like the municipality must enforce the rules. According to the project developer, municipalities often do not have enough financial resources to enforce rules and regulations. When rules and regulations are not enforced, people will likely not obey these rules. The project developer feels that residents often remove nature inclusive measures like a hedge and replace it with a wood fence if the municipality does not enforce the rules.

General

According to the interviewee of the province, the most formal and strict rule is the building decree at the state level. The building decree can prescribe how objects need to be build, and it might be possible to include nature inclusive measures in the building decree. The province itself does not have formal legal grounds to enforce nature inclusive measures. At the informal level, they can seduce, inform, share knowledge, and facilitate. The province can support the municipality with resources but has no legal grounds. The interviewee from the province feels like municipalities should share the ambition to build fewer homes in the same area and give more space to nature. Not only municipalities should be seduced into nature inclusive building according to the interviewee from the province, but residents should also be seduced.

According to some actors at the round table, there is a need for formal rules and requirements for nature. Municipalities are now motivated informally, but there are no formal rules for nature inclusive building, and this does not work. According to the actors at the round table, the national government should make formal rules. The ecologist feels like the government should take up a more steering role in building nature inclusive.

Taking up nature inclusive rules in the land use plan is unique. The municipality sometimes does not want to include too many rules in the plan of requirements for the project developer because they want to maintain the free market. On the other hand, sometimes municipalities can informally demand project developers by requesting nature inclusive measures. The developers who take these measures into account in their plans have a bigger chance of getting the project.

The urban designer feels there are already so many rules for building a house, and it is unfortunate that there are no formal rules on nature inclusive building. However, the ecologist feels it is possible to informally ask for nature inclusive measures by asking the contractors to include this in their plans.

The representative of the housing corporation feels like the municipality does not take responsibility for the species management plan because municipalities are not responsible for the nature conservation law; the province is the competent authority for this law. The housing corporation hopes that the municipality will join the plan in the future because the municipality can play a significant role in informing the citizens.

Main findings

	OLSTERGAARD	NOORDER KOESLAG
RULES AND INVOLVEMENT GOVERNMENT	Municipality owed the land	Construction claim
	Directing and stimulating at the government participation ladder	Between regulating and directing at the government participation ladder
	Many formal rules about nature inclusive building in the land use plan	No formal rules about nature inclusive building in the land use plan
	Trust residents to obey the rules	Thinks the municipality should enforce the rules

Table 9 Main findings rules and involvement government

Results: the role of participation in housing projects

This chapter will explain for both cases the participation process and the role of the government in housing projects. Next to that, the policy dimension rules is discussed in this chapter. The results are presented per case, with a general analysis. The results will lead to an answer to the sub research question what form of participation is used, and how did this influence the development process?

Olstergaard

In the original ambition document, much attention is paid to the participation process. After several residents' evenings at the beginning of the development process, this ambition document was drawn up. A participation ladder identifies the amount of citizen participation at the Olstergaard. The ladder used in this ambition document deviates from the ladders explained in the theory section. Nevertheless, the categories on that ladder are comparable with the categories from Arnstein (1969) and ROB (2012). The ambition document states that the step of the ladder that they would like to achieve is "advising". However, this level of participation is not set in stone. The step advising is right in the middle. This step implies that the future residents develop a plan together with the municipality, but the municipality is in control over the plan. This step can be compared to the directing step of ROB (2012) and the consultation step of Arnstein (1969). This ambition document is written at the beginning of the project.

In all cases, the informants reported that the (future) residents were involved in an early stage in the development process of the Olstergaard. The project manager of the municipality indicated that the municipality developed the initial vision of the Olstergaard. This initial vision was that the neighbourhood would become nature inclusive and circular. The municipality has tested whether people would be enthusiastic about this at a so-called "dream night" with citizens. According to the project manager, the people who attended the dream night embraced this nature inclusive and circular concept. After this, the municipality opened the registration for a residents' group. People who wanted to join the residents' group had to participate and think along with the Olstergaard project for one year. After their contribution to the residents' group, they would get an option for a lot in the neighbourhood. According to the urban designer and the project manager, the participation process started with many ideas from the residents. After this, the municipality and the urban design office, landscape architect, and ecologist processed these ideas and made them more specific.

The interviewees all agreed that the development plan has been fully drawn up together, in co-creation, with the future residents. According to the urban designer, the residents must make an effort to build a house in the Olstergaard. Multiple interviewees agree that the residents of the Olstergaard are not ordinary people, most of them are active in the participation process and are very involved in the project. Some comments were made about the residents' group. It is said to be a very active group with many civil servants and a relatively high level of education. The residents have an opinion about everything, and if they are convinced of their own opinion, it is not easy to convince them otherwise. The Olstergaard has a long and intensive participation project that might not interest the average home seeker. According to the urban designer, the people who live in the Olstergaard are interested in building nature inclusive, and they like to participate in the project. The project manager feels

like the residents have had a significant influence on the neighbourhood, some residents wanted to have measures like wadi's and keeping the neighbourhood car-free. The municipality actually ended up implementing these ideas into the plans. According to the urban designer, the idea was to start by creating many interesting ideas at the residents' evenings and make it more and more specific. The quality team had a steering role to make sure the neighbourhood would be consistent. According to the ecologist, the development plan results from co-creation with the residents, but the quality team and the municipality had a steering role in drawing up the end result. Two residents felt like the participation project was really open, and they enjoyed the residents' evenings. They felt that the input from the residents was appreciated, and the municipality and quality team responded positively to the reactions. One of the residents said that what she really liked about the project is the vision of the municipality and the possibility to share that vision with all the residents. The residents formed resident groups, and according to the project manager the residents have a lot of freedom to decide over the public greenery as well as their private property.

There were some negative comments about participation and that the process did not go well. Some residents said that they joined the project at a later stage, and because of this, they did not have a voice in the initial development plan. The development plan was drawn up together with the residents at the beginning of the project, some residents backed out and new people took their place. According to the ecologist, the residents group started with approximately 25 people, but more lots were available. This means not every resident has had a saying in the development plans. The residents who joined the project at a later stage had to accept the rules that were already drawn up.

One of the residents feels like the current group is no longer representative of the group they started with, and he feels like he just has to accept the rules. This is difficult for the residents and the municipality because they cannot keep changing the rules. Some residents indicated that they find communication with the quality team difficult. They can submit their plans to the quality team, but it is impossible to make an appointment to discuss their ideas together with a team member. The interviewees agreed that they would appreciate more flexibility and accessibility of the quality team.

Next to that, the participation process of the housing corporation seems to have some difficulties. These difficulties seem to have multiple causes. The initiative of including participation was commissioned by the municipality. The housing corporation had to find a way to apply participation to the project. According to a project manager of the housing corporation, the residents from the housing corporation usually are involved to a limited extent in the project for various reasons. In the participation process of the Olstergaard, the residents can vote for the plans of several contractors, and their vote will partly determine which plan will be developed. The housing corporation finds this quite exciting because the contractor would prefer to have objective methods to assess his plan. Instead of an objective assessment, the residents now judge the plans, but their opinion is very subjective. It is possible that the contractor objects to the final decision because, in their opinion, the residents are not professional enough. This participation process is new for the housing corporation. What makes the participation process even more difficult is that the corporation does not only build houses for the people who immediately move into the house but the

houses are built for the long term, also for the people who come in next. This means that only the first residents have a saying in the participation project. According to the project manager, another disadvantage of this participation process is that they must know their tenants at a very early stage. The risk is that these tenants might have already found another place to live at the time of delivery. Moreover, there were some comments that the residents who are part of the housing corporation are different from the other residents because they are less involved in the project. It seems like some people try to get a home quickly, but the idea of this project is that they should participate and put more effort into the project. In contrast to this, some of the residents of the housing corporation are more enthusiastic and would like to participate even more than possible.

Noorder Koeslag

In contrast to the Olstergaard, there has not been any participation in the social housing project of housing corporation Sallandwonen. The municipality did not have demands concerning participation. The housing corporation usually never includes the residents in the housing project because they build the houses for the people who immediately move in and the people who will move in next.

In Noorder Koeslag as a whole, there has been almost no participation from the residents, except for a walk-in evening where people could view the plan and ask questions. Each land-use plan had a walk-in evening where people could comment on the plans. Further participation was not mandatory from the municipality, and the project developer did not include residents themselves. According to the project manager of the municipality, the reason for the lack of participation in Noorder Koeslag is because of the current housing market, the houses will sell either way. People are glad if they can even buy a home, and the project manager feels like not everybody would want to participate two years before they can buy a house. The project developer agrees that many people want to buy a house immediately and do not want to wait and participate for a long time.

General

Often the municipality is designated as the one that has to take responsibility for nature inclusive developments. The municipality can provide information to the residents, and they can give the right example in the public space. However, several actors indicate that the national government can play a more prominent role in encouraging nature inclusive developments.

According to the interviewee of the province, their role in (nature inclusive) housing developments is to inspire, seduce, support with knowledge, sometimes with specific measures, processes, or with an inspiring studio. They try to help construction companies as well as municipalities to make it possible to build nature inclusive. Their role is facilitating. They, for example, started a network where they organise a major nature inclusive conference each year. Next to that, they organise and facilitate nature studios where they go to a location and try to solve the housing issues with many different parties.

The province tries to give the municipality advice, think along, and provide the correct information and knowledge. Participation might be an important factor according to the province because people need to become aware of the benefits of nature inclusive developments. However, you should be alert that not only the usual suspects participate in a

project, but more people also need to get involved. People who are usually not heard must get involved with the project. The interviewee from the province feels like the municipality is responsible for setting up participation projects for nature inclusive developments. They must include residents and put effort into reaching out to a whole street or a whole neighbourhood. The province has tools to help municipalities with creating participation processes. It was suggested in a meeting that project developers often less carefully deal with participation.

The majority of the round table meeting participants feel like there needs to be more support for nature inclusive developments from municipalities. Nature does not always have the priority and often loses from, for example, parking space. The residents are not yet included in the round table sessions, but most actors found it very important that they would get involved and their opinion gets heard.

	OLSTERGAARD	NOORDER KOESLAG
PARTICIPATION	Citizen participation ladder: partnership	Citizen participation ladder: consultation
	Cocreation with residents	Walk-in evenings

Table 10 main findings participation

Comparing the cases

The present research aimed to find factors that influence the transition to nature inclusive building in a positive way. Looking at the biodiversity problem and the housing shortage, the transition towards nature inclusive neighbourhoods is crucial. The different views of the interviewees, the documents and the information obtained through the observations show that the transition is very complex. The results section forms an answer to the first sub research questions. Crucial to answering the main research question is to look at the differences and similarities between both projects. This chapter will present the similarities and differences of policy arrangements, government involvement and rules, participation and the nature inclusive measures between both projects. These differences and similarities will result in an answer to the last sub research question, this will help answer the main research question in the end.

Nature inclusive measures

There is a big difference in the nature inclusive measures of the Olstergaard and the Noorder Koeslag. The Noorder Koeslag has some greenery and waterways, but this is meant for a pleasant living environment and not for an increase in biodiversity. On the contrary, the Olstergaard includes all five concepts that belong to nature inclusive building. Therefore, it can be concluded that the Olstergaard is a nature inclusive neighbourhood.

Policy arrangements

Actors and coalitions

This research shows that there are many actors involved in new housing developments. These actors can, to a certain extent, influence the transition towards nature inclusive building. The municipality of Olst-Wijhe can be seen as a central actor in both the Olstergaard and the Noorder Koeslag. The main difference between both projects is the involvement of a project developer at the Noorder Koeslag, whereas no project developer was involved at the Olstergaard. In contrast, at the Olstergaard a quality team was involved with multiple experts. The quality team can be seen as a coalition as well as a central actor. The coalition between the municipality and the quality team was very positive.

The residents of the Olstergaard can be seen as a central actor because they have had much influence on the project, whereas in the Noorder Koeslag the residents did not have any influence. The residents' group of the Olstergaard is a coalition because the residents have the same vision and work together to make decisions. At the Noorder Koeslag, the residents can be seen as peripheral actors. Both projects share the involvement of the same housing corporation. Next to that, the province has had some influence on the project, but they can be seen as peripheral actor. In the Olstergaard, other actors are involved and influence decision-making than in the Noorder Koeslag.

It can be concluded that both projects have some similarities as well as differences in the actors that are involved. The most interesting similarity of both projects is the involvement of the municipality and the housing corporation. The most striking difference is the project developer at the Noorder Koeslag, opposite of the quality team and the residents of the Olstergaard.

Discourse

The narrative in which the situation is discussed determines if a situation is perceived as a political problem. It has become clear that the Olstergaard and the Noorder Koeslag have a different narrative. An interesting difference between both projects is the vision of the municipality for the Olstergaard, compared to the vision for the Noorder Koeslag. With the Olstergaard project, it was clear from the start of the plans that it would become a sustainable neighbourhood. The board was very excited about the nature inclusive neighbourhood and approved the plans. However, at the Noorder Koeslag, sustainability was never the central theme. The municipality continued in the spirit of the old plans and did not contribute any nature inclusive measures. This is quite surprising since the land use plans are from around the same time, and it was said that the municipality values sustainability. Although the same municipality created both visions, they were constructed in different narratives.

The Olstergaard was built for a different target group than the Noorder Koeslag. The project developer thinks there is no demand for nature inclusive houses, so he has no incentive to build nature inclusive.

Resources

The financial situation of both projects was not equal. A noticeable difference can be identified in the pursuit of profit in both projects. The Olstergaard had the goal to be at least budget neutral or create little profit. In addition, the municipality bought the land for a low price, so they did not have to be very sharp on the costs. The interviewees said that nature inclusive measures do not have to cost much money. However, if the municipality had to pursue more profit at the Olstergaard, they would have to develop more units and less space for nature. The residents have different budgets they can spend on nature inclusive measures. They have to include nature inclusive measures but have the possibility to include the cheapest options.

On the contrary, at the Noorder Koeslag the goal was to gain profit and meet the municipality's housing needs. They felt some effects from the financial crisis, and they had to be sharp on the costs. Although the project developer does not think that nature inclusive measures are expensive, they did not include any. Therefore, the choice to not include measures was not financially driven.

Knowledge seems to be another critical resource, especially for the Olstergaard. The municipality did not have enough knowledge to realise this neighbourhood, and therefore they have called in experts. Because of the small municipality size, they do not have their own ecologists employed, while bigger municipalities have several ecologists to help with these kinds of projects. Moreover, the residents are very interested in nature inclusive building, but not all have the proper knowledge. Although they do not always have the right knowledge, they put much effort into collecting new knowledge and sharing it with each other. The project developer of the Noorder Koeslag feels like nature inclusive building is an expertise. Many participants indicated that it is essential to educate residents on nature inclusive measures. Many people do not know the benefits of nature inclusive building, therefore the municipality should take the responsibility to inform the residents.

Time has played a significant role in the Olstergaard project in multiple ways. First of all, the residents had to invest much time in the project. Next to that, the municipality had to invest much time in communication with residents and the quality team. Lastly, the quality team must review the plans of all residents, which costs a lot of time.

Rules and involvement of government

As shown above, the municipality is a central actor in both projects. It is interesting to see the similarities and differences in the involvement of the municipality. The government can be involved in the decision-making process to several extents. The municipality Olst Wijhe is involved in different ways in the Olstergaard relative to Noorder Koeslag. The municipality owned the land of the Olstergaard and was fully responsible for the development, while in the Noorder Koeslag they made a construction claim with the project developer. Although in the Olstergaard they started by taking the lead on the project, as the project progressed, they stepped back and took on a more steering role. However, the municipality was still in control, and in the end they made the decisions. The rules for the Olstergaard are cocreated with residents and the quality team, but the municipality made the final decisions. If we take a look at the government participation ladder by ROB (ROB, 2012), it seems like the municipality, in the beginning, was more at the fourth step (directing) and at the end more at the middle (stimulate). In the beginning, the municipality took the lead on the project and had a more directing role where they wanted to be in control. After this first phase, they stepped back and let the quality team decide together with the residents. The municipality has a particular vision but leaves the realisation to others. In this phase they took on a stimulating role.

At the Noorder Koeslag, the municipality had to collaborate with the project developer, but in the end, they made the decisions and had the most influence on the project. Although the project developer did play a role in the housing development, the municipality was in control of the neighbourhood through laws and regulations. This means that the municipality took on a role between directing and regulating on the government participation ladder (ROB, 2012).

As shown in the theory section, rules can be formal or informal. There are some interesting differences in the use of formal and informal rules in both projects. The municipality was able to enforce many rules in the land use plan of the Olstergaard. The rules in the land use plan are quite strict, but they are cocreated with the first residents. The residents must send their plans to the quality team to get approval to start the construction. Some residents felt like the rules were a bit too strict and not flexible enough. On the contrary, at the Noorder Koeslag, there were no formal rules about nature inclusive measures at all. The municipality feels like the project developer will submit a judgement if they would include measures in the land-use plan.

Interestingly, the project developer of the Noorder Koeslag feels like the municipality should enforce the rules for nature inclusive measures. The reason he gives is that residents often remove nature inclusive measures. The municipality, on the contrary, trusts that the residents of the Olstergaard follow the rules. They will not check much if residents follow the rules because they feel like the residents will be responsible for keeping the neighbourhood green and nature inclusive.

Participation

While the participation ladder of ROB (2012) focusses on government control, the original participation ladder of Arnstein (1969) focussed on the amount of citizen participation. Above, it is concluded that at the Olstergaard the municipality took on the role of directing and stimulating. However, at the citizen participation ladder, the step of “partnership”

The table below sums up the findings and the main similarities and differences of the Olstergaard compared to the Noorder Koeslag.

	OLSTERGAARD	NOORDER KOESLAG
NATURE INCLUSIVE MEASURES	<ul style="list-style-type: none"> - Considering nature upfront - Positive outcomes for both nature and people - An addition to general nature conservation action - Knowledge of the local conditions and local species - Many nature inclusive measures 	Greenery and waterways, but only for people not for nature
ACTORS	<p>Central actors: Municipality Olst-Wijhe Project Developer</p> <p>Peripheral: Residents Province</p>	<p>Central actors: Municipality Olst-Wijhe Quality team Residents</p> <p>Peripheral: Individual experts Province</p>
DISCOURSE	Vision clearly nature inclusive and sustainable	Vision for making a spacious and green neighbourhood
RESOURCE	<p>Aim for budget neutral or little profit</p> <p>Put effort into gaining knowledge about nature inclusive building</p> <p>Takes more time</p>	<p>Aim to make profit, sharp on the costs</p> <p>Did not have or need to have knowledge</p> <p>Regular amount of time</p>
RULES AND INVOLVEMENT GOVERNMENT	<p>Municipality owed the land</p> <p>Directing and stimulating at the government participation ladder</p>	<p>Construction claim</p> <p>Between regulating and directing at the government participation ladder</p>

PARTICIPATION

Many formal rules about nature inclusive building in the land use plan	No formal rules about nature inclusive building in the land use plan
Trust residents to obey the rules	Thinks the municipality should enforce the rules
Citizen participation ladder: partnership	Citizen participation ladder: consultation

Table 11 Comparison of the cases

Conclusion

An answer to the main research question can be formulated by looking at the answers to the sub research questions. The sub research questions are:

- What nature inclusive measures are applied in the housing projects?
- What policy arrangements are used and how does this influence the development process?
- What is the role of the government and what rules are applied in the neighbourhood development process?
- What form/type of participation is used, and how did this influence the development process?
- What are the similarities and differences between a nature inclusive housing project and a regular housing project?

This research shows that the Olstergaard has many nature inclusive measures. Nature was considered at the start of the project and continued to be of major importance throughout the project. On the contrary, in the Noorder Koeslag project nature was not considered as such, and the neighbourhood was mainly designed for the people.

The second sub research question is formulated to investigate what policy arrangements are used and how they influence the development process of both neighbourhoods. It has become clear that every policy dimension that is covered in the theory section has played a specific role in the development process. Actors, as well as the discourse, resources, and rules have each played a particular role in both neighbourhoods. Starting with the actors, the central actors have had the most influence in the decision-making process of the projects. In the Olstergaard the central actors are the municipality, the quality team and the residents. The central actors of the Noorder Koeslag are the municipality and the project developer. The municipality played a key role in the decision making of both projects. The policy dimension discourse has influenced the projects mainly through the social construct of nature inclusive building and the vision of the municipality. Sustainability and nature were an important theme at the municipality when making the plans for the Olstergaard. This contributed to a clear nature inclusive vision which positively influenced the nature inclusive measures in the neighbourhood. The primary resources that influenced the development processes were money, knowledge and time. Interestingly, most actors agree that nature inclusive measures on their own do not have to cost a lot of money. However, money does influence the development process in other ways, for example with higher maintenance costs for the nature inclusively designed public area. Next to that, nature inclusive design requires more space and therefore fewer houses can be built in the same area. It appears that there is little knowledge about nature inclusive building by residents. Also, amongst the municipality and project developer, there is a need for experts on nature inclusive building. Time has especially played a role in the assessment of each individual plan which has cost the quality team a lot of time.

The third research question addresses the role of the government and the policy discourse rules. This research shows that both the role of the government and the formal rules can significantly influence the development process. The municipality can be more or less involved in the development process. If the municipality is highly involved, they will have more

influence on the development process. If the municipality plays a significant role in the decision-making process and makes many formal rules, it can positively influence the transition to nature inclusive building. Formal rules about nature inclusive building can be laid down in the land use plan. In the land use plan of the Olstergaard a reference is made to the quality plan. This quality plan lays down specific nature inclusive measures that must be included and the plant species that may be used.

The fourth research question addresses the form of participation used in the projects and how this influenced the development process. It can be concluded that more citizen participation can positively influence nature inclusive developments. Although, more participation also costs more time and municipal employees. Unique for nature inclusive developments is that the residents have to be interested in nature inclusive building. To be able to participate in the decision-making process, the residents need knowledge about nature inclusive building, or they need to be willing to gain more knowledge about the subject.

The fifth research question addresses the similarities and differences between a nature inclusive neighbourhood and a regular neighbourhood. This last sub research question is the last step to answer the main research question.

There is a difference in the actors involved in the Olstergaard and the Noorder Koeslag. Especially the involvement of a project developer in the Noorder Koeslag and the involvement of experts and residents at the Olstergaard has influenced the housing projects. At the Noorder Koeslag, the municipality could not decide on its own because they had to cooperate with the project developer in the decision-making process. At the Olstergaard, the municipality could gain more knowledge and ideas from the experts that were involved. Interestingly, the same actor, the municipality, had a different discourse and vision for both projects. The discourse and the vision for the Olstergaard positively influenced nature inclusive building. Next to that, a difference can be seen in the resources that are used in both projects. The financial situation was different, because of a difference in the pursuit of profit. The Olstergaard had to be budget neutral and the land was bought for a low price, while the Noorder Koelsag had the goal to make profit. At the Olstergaard, more knowledge was available because of the quality team. The biggest difference in time is related to the participation process and the assessment of the quality team in the Olstergaard.

In the Olstergaard, the municipality took on the role of directing and stimulating, while in the Noorder Koeslag they took on the role of directing and regulating. The municipality enforced many rules about nature inclusive measures and plant species in the land use plan of the Olstergaard. At the Noorder Koeslag on the contrary, there were no formal rules about nature inclusive measures. It is important that the municipality can enforce the rules, or at least they should be able to trust the residents to obey the rules.

Another striking difference is the intensive participation process of the Olstergaard compared to the minor participation in Noorder Koeslag. This intensive participation process also relates to the discourse of the residents of the Olstergaard. Most residents are interested and involved with nature and want to make an effort to build nature inclusive. The participation process also relates to time because an intensive participation process takes more time. At the Olstergaard, there was more time available because there was less pressure to gain profit from the project. Lastly, the situation in the housing market was different in both projects. At

the Noorder Koeslag, people were glad they could even buy a house. Residents were not in the position to ask for nature inclusive measures.

A conclusion can be drawn from these sub questions to provide an answer to the main research question:

What factors positively influence the transition towards nature inclusive building of small residential neighbourhoods in the Netherlands?

The actors that are involved in the decision-making process can have a positive influence on the transition to nature inclusive building. For example, involving experts and the residents as central actors can positively influence this transition. The experts and residents can cooperate with the municipality to make the neighbourhood nature inclusive. The municipality can play a key role in the decision-making process and therefore has much influence on the transition. The municipality should have a positive attitude towards nature and biodiversity. A nature inclusive vision is essential for the transition towards nature inclusive building. Including an ecologist and sharing knowledge on nature inclusive building can also positively influence the transition. An ecologist has more knowledge on nature inclusive building and can help to determine the right nature inclusive measures for a specific neighbourhood. Next to that, an ecologist can be useful in the participation process. Although time and knowledge can be a constraint, involving the residents in the participation process can positively influence the transition towards nature inclusive building in new neighbourhoods. The municipality can use its influence by creating formal rules. Formal rules can be of great importance for nature inclusive building. Taking up rules about nature inclusive measures in the land use plan can be crucial for the transition to nature inclusive building. However, the municipality should be able to enforce the rules. Lastly, the government should take up a directing and stimulating role in the decision-making process.

Discussion

Nature inclusive building is a very recent concept and therefore has little scientific research. A transition is needed to build nature inclusive, but there is little scientific literature on how to achieve this transition that is relevant for this research. The findings of this research add new insights on how to achieve the transition to nature inclusive building. It is already known that transitions are complex processes and include many different actors (Geels, 2011). This research confirms that multiple actors are involved in the transition to nature inclusive building. Next to that, multiple factors influence the transition, which shows the complexity of transitions. Dijkshoorn-Dekker et al. (2020) show that scientific literature about green in the real estate sector not yet focusses on biodiversity and nature. This thesis research is focused on nature inclusive building and, therefore, on biodiversity and nature. It provides a link to the real estate sector in that it gives insight into increasing biodiversity and nature in new neighbourhood developments.

Biodiversity requirements often remain ignored in designing a specific site (Beer et al., 2003). This research shows that this is not always the case. There are definitely some nature inclusive neighbourhood developments that consider nature and biodiversity as crucial. However, the general neighbourhood indeed ignores additional biodiversity requirements in the design. They only focus on the appeal of the neighbourhood and the benefits for people, not for

nature. Beer et al. (2003) have shown that it is crucial to take the planning of green space more seriously. This thesis research shows that an ecologist should be included in making plans to take the planning of green space more seriously. An ecologist has the proper knowledge to build nature inclusive that decision-makers might not have. However, some might argue that benefits for nature should not be at the expense of living pleasure. This also connects to educating residents. People might think bats and insects [RK(3)] are scary because they do not know the benefits these animals have for nature. However, the right balance between biodiversity and living pleasure should be sought.

An important factor that influences the transition seems to be the discourse and the vision of the housing project. According to Hajer (1993) political problems are socially constructed, and the narrative in which they are discussed determines if a situation is perceived as a political problem. The decrease in biodiversity should be perceived as a political problem. The narrative in which housing projects are discussed can be significant for the amount of nature inclusive measures. It helps if the municipality finds sustainability and nature inclusive building necessary. Nature should be included as a core value in housing projects. The actors that are involved in a housing project should share the same social construct of the political problem at stake. If the actors do not share the same social construct, the transition will get more complicated. The province of Overijssel already plays a significant role in spreading knowledge and awareness for nature inclusive building, but more can be done. Residents should become aware of the benefits of nature inclusive building by spreading knowledge. Next to that, the vision for a neighbourhood can play a major part in new neighbourhood developments. This vision should be communicated with all actors that are involved in the development process.

Before this research, I expected that money would be an essential factor for nature inclusive building. However, multiple actors have indicated that it does not have to cost more to build nature inclusive. The lack of knowledge and incentive slows down the transition to nature inclusive building. Next to that, it seems like there is a responsibility problem with nature inclusive building. It is unclear who should be responsible for building nature inclusive, and actors are pointing at each other. Some say that there should be legal policy on nature inclusive building from the national government. Others say that the municipality is responsible for building and setting rules about building nature inclusive. This relates to the ongoing discussion in the Netherlands about centralising or decentralising the government. Municipalities have gotten more and more responsibilities in the last decades, but the question arises if they can handle these responsibilities and if the national government should interfere. A national minister of spatial planning could help to give spatial planning and related political problems a powerful position. The national government already has a long-term vision for nature inclusive building, but formal policy can help put this vision into action. However, some lay the responsibility on the project developers who build the houses. Finally, some point at the direction of the residents because they feel there is no demand for nature inclusive housing. In the end, there is not one actor responsible for the transition to nature inclusive building, everyone should contribute for it to succeed.

Reflection on the research and the internship

Because of the unexpected delays in the development of the Olstergaard, they are still constructing the houses. Therefore, not all nature inclusive measures can be evaluated. Although the plans and the rules for the nature inclusive measures are clear, the result cannot

yet be analysed. However, this research aims at the transition towards nature inclusive building, and it has become clear that the vision and the actual implementation of this neighbourhood are nature inclusive.

This research is conducted during an internship at the municipality Olst-Wijhe. This internship allowed a unique insight in the practice of neighbourhood developments. Next to that, it was possible to use the research method observation because of this internship. The internship also allowed getting in touch with the relevant actors of both housing projects. I was able to interview most actors that were involved which is very positive. However, the landscape architect of the Olstergaard did not reply on the invitation for the interview. Also, I got to speak with the ecologist from the housing corporation, while he did not have all the information about the Olstergaard project. Therefore, additional interviews with the project leader of the Olstergaard and the Noorder Koeslag might have been even better. The first interview went a little less smooth because I had to get used to asking the questions, paying attention to the answers and questioning the answers again. After the first interview I got more used to this, and the interviews improved. The internship also allowed to easily ask follow up questions to the municipality's project manager.

Recommendations for further research and practice

The theoretical framework helped formulate the sub research questions and answer the main research question. However, some factors that are included in this framework could have been more elaborate. The role of the government, for example, focussed mainly on municipalities, but provinces and the national government can also play a major role in the transition. This research is based on a set of two case studies in the east of the Netherlands. Analysing more cases can provide a better insight into the completeness of the theoretical framework. Next to that, comparing multiple cases creates more generalisability. It might be an excellent addition to select cases from the Randstad region because there is an even higher housing shortage in that region of the Netherlands. An addition to this research will be the opinion of the general house buyer on nature inclusive building. It is fascinating to know if there is a demand for nature inclusive building.

This research focused on the factors that influence the transition to nature inclusive building. The Olstergaard implements many nature inclusive measures, but it is not yet possible to conclude if the measures lead to better biodiversity. It would be fascinating to evaluate the project after several years.

In order to make the transition to nature inclusive building, policymakers can do several things. First of all, it is essential to have a vision for the neighbourhood that includes nature and biodiversity. If there is no vision or goal to make a neighbourhood nature inclusive, nature inclusive measures are less likely to be applied. Next to that, it is essential to design the public space correctly for a nature inclusive neighbourhood. Nature inclusive measures can be taken at the houses, but the public greenery also plays an important role. Also, the maintenance of the public greenery should be done while taking biodiversity into account. Decision-makers might not have the knowledge to make a neighbourhood nature inclusive. Therefore, it can be essential to include an ecologist or expert on nature inclusive building. In addition, it can be essential to educate and inform the residents about the benefits of nature inclusive building. If the residents are concerned with nature inclusive measures, it might not be needed

to enforce the rules. If a project developer is involved, it might be best to informally make agreements about nature inclusive building at the beginning of the project. Include the project developer in the nature inclusive vision and discuss what measures they can apply. If it does not work informally, formal policy rules might need to be implemented. Some respondents think it would be best if there is formal national policy on nature inclusive building.

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Appendix 1: Interview manuals

Municipality's project manager Olst-Wijhe

Intro:

Voorstellen, doel interview, aanpak, anonimiteit, tijdsduur

Ik doe onderzoek voor mijn master ruimtelijke planning aan de Radboud universiteit naar de transitie naar natuurinclusief bouwen. Voor dit onderzoek wil ik graag van verschillende actoren weten wat hun perspectief is op natuurinclusief bouwen. Dit onderzoek focust op de wijk Olstergaard in Olst in vergelijking tot de wijk Noorderkoeslag in Wijhe.

In dit interview ben ik eerst benieuwd naar natuurinclusief bouwen bij de gemeente Olst-Wijhe en heb ik een aantal vragen over de wijk Olstergaard. Daarna komen meer vragen aan bod over het maatregelen in deze wijk en over de vergelijking met Noorderkoeslag.

Natuurinclusieve maatregelen

- Wat is jullie definitie van natuur inclusief?
- Welke ervaringen hadden jullie met natuurinclusief bouwen voorafgaand aan het project Olstergaard?
- Hoe belangrijk vinden jullie het binnen de gemeente om natuurinclusief te bouwen of de biodiversiteit in een buurt te vergroten? Is daar specifiek beleid op gevormd?
 - o Wordt er bij elk project in dezelfde mate belang gehecht aan natuurinclusief bouwen, en waarom wel/niet?
- Van wie is het initiatief gekomen om natuurinclusief te gaan bouwen (in de wijk Olstergaard of als ze ook andere wijken hebben in het algemeen)?
 - o Is dit vanuit het beleid gekomen of vanuit het enthousiasme van een werknemer?
- Er zijn bepaalde eisen opgesteld waar de woningen aan moeten voldoen, is dit door de gemeente alleen bepaald?
 - o Hadden jullie zelf de kennis in huis om deze eisen op te stellen?
 - o Het is bij natuurinclusief bouwen van belang dat er onderzoek gedaan wordt naar de lokale natuurwaarden en biodiversiteit, is dit gedaan en door wie?
- Welke financiële afwegingen hebben een rol gespeeld bij het bepalen van de natuurinclusieve maatregelen?
- Is het natuurinclusieve concept al meteen vanaf de start van het project meegenomen in de plannen? Of is dit later pas gekomen?

- Wat maakt volgens u het wonen in een natuurinclusieve wijk aantrekkelijk voor potentiële bewoners?

Vergelijking maken met Noorderkoeslag

- Als je de Olstergaard vergelijkt met Noorderkoeslag, welke aanpak is voor jullie meer rendabel, en waarom?
 - En als het draait om tijd, ben je dan meer of minder tijd kwijt om natuurinclusief te bouwen?
 - (Indien ze bij de Olstergaard experts in hebben moeten schakelen) Hebben jullie bij de wijk Noorderkoeslag ook experts ingeschakeld om onderzoek te doen naar de natuurwaarden of hadden jullie zelf de kennis in huis?
 - Zijn er verschillen in de materialen die gebruikt zijn bij de Olstergaard en Noorderkoeslag? Zijn de materialen in de ene wijk bijvoorbeeld duurder geweest of moeilijker verkrijgbaar?

Overheidsparticipatieladder en rules

- Wat voor soort grondbeleid is er gevoerd bij beide projecten en hoe heeft dat invloed gehad op het project?
- Heeft de gemeente bij de wijk Noorderkoeslag meer of minder invloed gehad op het project dan bij de wijk Olstergaard?
- Zijn er ook informele regels geweest bij Olstergaard, dit zijn regels die niet zijn vastgelegd in de wet maar wat jullie wel verwachtten van de andere partijen?
- Is dit ook/wel het geval bij Noorderkoeslag?
- In hoeverre hebben jullie de toekomstige bewoners betrokken bij de Olstergaard? Hebben jullie de bewoners ook betrokken bij de Noorderkoeslag?
 - bij ja: Is het betrekken van de bewoners ook beleid in deze gemeente?
 - hoe ervaren jullie het om de bewoners dusdanig te betrekken bij een project?

Coalities

- Hoe is de samenwerking met andere actoren verlopen?
- Wat was houding van de andere actoren vanaf het eerste moment naar het concept natuurinclusief bouwen?

Afsluiting

Heeft u nog vragen of opmerkingen

Sallandwonen

Intro:

Voorstellen, doel interview, aanpak, anonimiteit, tijdsduur

Ik doe onderzoek voor mijn master ruimtelijke planning aan de Radboud universiteit naar de transitie naar natuurinclusief bouwen. Voor dit onderzoek wil ik graag van verschillende actoren weten wat hun perspectief is op natuurinclusief bouwen. Dit onderzoek focust op de wijk Olstergaard in Olst in vergelijking tot de wijk Noorderkoeslag in Wijhe.

In dit interview ben ik eerst benieuwd naar natuurinclusief bouwen bij Sallandwonen en heb ik een aantal vragen over de wijk Olstergaard. Daarna komen meer vragen aan bod over het maatregelen in deze wijk en over de vergelijking met Noorderkoeslag.

Natuurinclusieve maatregelen

- Is Olstergaard het eerste project waarbij jullie natuurinclusief bouwen?
- Wat is jullie definitie van natuur inclusief? (**discourse?**)
- Hebben jullie zelf in het bedrijf beleid om natuurinclusief te bouwen? Of in bredere zin om de biodiversiteit te vergroten?
- Hoe belangrijk vinden jullie het binnen het bedrijf om natuurinclusief te bouwen of de biodiversiteit in een buurt te vergroten? (**discourse?**)
- Van wie is het initiatief gekomen om natuurinclusief te gaan bouwen (in de wijk Olstergaard of als ze ook andere wijken hebben in het algemeen)?
- Waren er bepaalde regels of eisen waar het project moest voldoen om natuurinclusief te zijn of mochten jullie daar zelf een invulling aan geven?
- Is het natuurinclusieve concept al meteen vanaf de start van het project meegenomen in de plannen? Of is dit later pas gekomen?
- Denkt u dat de bewoners van dit complex zullen profiteren van het feit dat het een natuurinclusieve buurt is?

(Misschien vragen of hij een lijst heeft met concrete maatregelen die ze gebruikt hebben om het natuur inclusief te maken)

Resources

- Hadden jullie de kennis in huis om natuurinclusief te kunnen bouwen? Of hebben jullie externe kennis in moeten schakelen voor dit project?
- Bij natuurinclusief bouwen is het vaak van belang dat er eerst onderzoek gedaan wordt naar de lokale soorten, hebben jullie dit gedaan of laten doen?

- In hoeverre heeft geld een rol gespeeld bij het bepalen van de natuurinclusieve maatregelen?
- Bepaalde maatregelen zijn niet heel duur, maar je moet er wel kennis van hebben om het te kunnen toepassen, hadden jullie deze kennis in huis?

Vergelijking met Noorderkoeslag

- Als je de Olstergaard vergelijkt met Noorderkoeslag, ben je dan meer of minder geld kwijt om natuurinclusief te bouwen?
- En als het draait om tijd, ben je dan meer of minder tijd kwijt om natuurinclusief te bouwen?
- (Indien ze bij de Olstergaard experts in hebben moeten schakelen) Hebben jullie bij de wijk Noorderkoeslag ook experts ingeschakeld of hadden jullie zelf de kennis in huis?
- Zijn er verschillen in de materialen die gebruikt zijn bij de Olstergaard en Noorderkoeslag? Zijn de materialen in de ene wijk bijvoorbeeld duurder geweest of moeilijker verkrijgbaar?

Overheidsparticipatieladder en rules

- Bij de wijk Olstergaard, in hoeverre heeft de gemeente bepaald wat er gebouwd moest worden? Zijn er bepaalde regels vastgelegd?
- Hoe is dat bij Noorderkoeslag, heeft de gemeente bij dit project meer of minder invloed gehad op het proces?
- Zijn er ook informele regels geweest bij Olstergaard, dit zijn regels die niet zijn vastgelegd in de wet maar wat wel van jullie verwacht werd?
- Is dit ook/wel het geval bij Noorderkoeslag?
- In hoeverre hebben jullie de toekomstige bewoners betrokken bij de Olstergaard? Hebben jullie de bewoners ook betrokken bij de Noorderkoeslag?
→ bij ja: Is het betrekken van de bewoners vanuit jullie gekomen of was dit een regel vanuit de gemeente?
→ hoe ervaren jullie het om de bewoners dusdanig te betrekken bij een project?

Coalities

- Hoe is de samenwerking met de gemeente verlopen bij Olstergaard? En bij de Noorderkoeslag?
- Hebben jullie nog samengewerkt met andere partijen bij Olstergaard? En bij de Noorderkoeslag?
- Denken jullie dat er een bepaalde doelgroep afkomt op een wijk met een natuurinclusief karakter

Urban designer, SVP SVP

Intro:

Voorstellen, doel interview, aanpak, anonimiteit, tijdsduur

Ik doe onderzoek voor mijn master ruimtelijke planning aan de Radboud universiteit naar de transitie naar natuurinclusief bouwen. Voor dit onderzoek wil ik graag van verschillende actoren weten wat hun perspectief is op natuurinclusief bouwen. Dit onderzoek focust op de wijk Olstergaard in Olst in vergelijking tot de wijk Noorderkoeslag in Wijhe.

In dit interview ben ik eerst benieuwd naar natuurinclusief bouwen bij SVP en heb ik een aantal vragen over de wijk Olstergaard. Daarna komen meer vragen aan bod over de maatregelen in deze wijk en over de vergelijking met Noorderkoeslag.

Natuurinclusieve maatregelen

- Wat is jullie definitie van natuur inclusief?
- Welke ervaringen hadden jullie met natuurinclusief bouwen voorafgaand aan het project Olstergaard?
- Hoe belangrijk vinden jullie het binnen het bedrijf om natuurinclusief te bouwen of de biodiversiteit in een buurt te vergroten? Is daar specifiek beleid op gevormd?
- Van wie is het initiatief gekomen om natuurinclusief te gaan bouwen (in de wijk Olstergaard of als ze ook andere wijken hebben in het algemeen)?
- Op wat voor manier zijn jullie betrokken bij het project?
- Toen jullie zijn benaderd voor dit project, was het natuurinclusieve concept toen al meteen meegenomen, of is dit later gekomen?
- Wat maakt volgens u het wonen in een natuurinclusieve wijk aantrekkelijk voor potentiële bewoners?
- Hoe is het kwaliteitsteam ontstaan en wat is jullie rol daarin?

Resources

- Hadden jullie de kennis in huis om natuurinclusief te kunnen bouwen? Of hebben jullie externe kennis in moeten schakelen voor dit project?
- Welke financiële afwegingen hebben een rol gespeeld bij het bepalen van de natuurinclusieve maatregelen?

- Wat is voor jullie het verschil als je deze natuurinclusieve wijk vergelijkt met een gewone wijk. Hebben jullie hier meer/minder werk aan?
 - Zijn er verschillen in de materialen die gebruikt zijn bij de Olstergaard en Noorderkoeslag? Zijn de materialen in de ene wijk bijvoorbeeld duurder geweest of moeilijker verkrijgbaar?

Overheidsparticipatieladder en rules

- Bij de wijk Olstergaard, in hoeverre heeft de gemeente bepaald wat er gebouwd moest worden? Zijn er bepaalde regels vastgelegd?
- In hoeverre is dit in overleg gegaan met bewoners?
- Zijn er ook informele regels geweest bij Olstergaard, dit zijn regels die niet zijn vastgelegd in de wet maar wat wel van jullie verwacht werd?
- Is dit ook/wel het geval bij Noorder koeslag?
- In hoeverre hebben jullie de toekomstige bewoners betrokken bij de Olstergaard? Hebben jullie de bewoners ook betrokken bij de Noorder koeslag?
 - bij ja: Is het betrekken van de bewoners vanuit jullie gekomen of was dit een regel vanuit de gemeente?
 - hoe ervaren jullie het om de bewoners dusdanig te betrekken bij een project?

Coalities

- Hoe is de samenwerking met de gemeente verlopen bij Olstergaard? En bij de Noorderkoeslag?
- Hebben jullie nog samengewerkt met andere partijen bij Olstergaard? En bij de Noorderkoeslag?

Afsluiting, zijn er nog vragen of opmerkingen

Ecologist Ecogroen

Intro:

Voorstellen, doel interview, aanpak, anonimiteit, tijdsduur

Ik doe onderzoek voor mijn master ruimtelijke planning aan de Radboud universiteit naar de transitie naar natuurinclusief bouwen. Het gaat bij dit onderzoek voornamelijk om de transitie naar het natuurinclusief bouwen, niet alleen maar over natuurinclusief bouwen zelf. Voor dit onderzoek wil ik graag van verschillende actoren weten wat hun perspectief is op natuurinclusief bouwen. Dit onderzoek focust op de wijk Olstergaard in Olst in vergelijking tot de wijk Noorderkoeslag in Wijhe.

In dit interview ben ik eerst benieuwd naar natuurinclusief bouwen bij SVP en heb ik een aantal vragen over de wijk Olstergaard. Daarna komen meer vragen aan bod over de maatregelen in deze wijk en over de vergelijking met Noorderkoeslag.

Natuurinclusieve maatregelen

- Wat is jullie definitie van natuur inclusief?
- Welke ervaringen hadden jullie met natuurinclusieve woonwijken voorafgaand aan het project Olstergaard?
- Hoe belangrijk vinden jullie het binnen het bedrijf om natuurinclusief te bouwen, is er specifiek beleid op natuurinclusiviteit gevormd?
- Van wie is het initiatief gekomen om natuurinclusief te gaan bouwen in de wijk Olstergaard?
- Toen jullie zijn benaderd voor dit project, was het natuurinclusieve concept toen al meteen meegenomen, of is dit later gekomen?
- Op wat voor manier zijn jullie betrokken bij het project?
- Hoe is het kwaliteitsteam ontstaan en wat is jullie rol daarin?
- Wat maakt volgens u het wonen in een natuurinclusieve wijk aantrekkelijk voor potentiële bewoners?
- Hoe is de verhouding tussen het kwaliteitsteam en de bewoners?
- Hoe en door wie zijn de regels uit het spoorboekje gemaakt, en in wat voor mate staan daar natuurinclusieve maatregelen in?
- Hoe kan het dat er zo veel eisen aan de natuurinclusieve maatregelen kunnen worden gesteld in deze wijk, en waarom kan dat niet in elke wijk?
- Kan een wijk ook zo natuurinclusief worden als er meer huizen op hetzelfde oppervlakte gebouwd moeten worden?

Resources

- Hadden jullie de kennis in huis om natuurinclusief te kunnen bouwen? Of hebben jullie externe kennis in moeten schakelen voor dit project?
- Welke financiële afwegingen hebben een rol gespeeld bij het bepalen van de natuurinclusieve maatregelen?
- Qua tijd dat je in een project moet stoppen, is dit bij de Olstergaard meer?

<ul style="list-style-type: none"> - Hoe verschilt de Olstergaard met een andere wijk als je kijkt naar onderhoud, kost dit meer of minder tijd en geld?
<ul style="list-style-type: none"> - Wat is voor jullie het verschil als je de Olstergaard wijk vergelijkt met een andere wat meer traditionele wijk. Hebben jullie hier meer/minder werk aan? <ul style="list-style-type: none"> • Zijn er verschillen in de materialen die gebruikt zijn bij de Olstergaard en Noorderkoeslag? Zijn de materialen in de ene wijk bijvoorbeeld duurder geweest of moeilijker verkrijgbaar?
<p>Overheidsparticipatieladder en rules</p> <ul style="list-style-type: none"> - Bij de wijk Olstergaard, in hoeverre heeft de gemeente bepaald wat er gebouwd moest worden? Zijn er bepaalde regels vastgelegd? - In hoeverre is dit in overleg gegaan met bewoners? - In hoeverre zijn jullie als bureau betrokken geweest bij het participatieproces - In hoeverre is dit proces anders dan bij een normale woonwijk? - Zijn er ook informele regels geweest bij Olstergaard, dit zijn regels die niet zijn vastgelegd in de wet maar wat wel van jullie verwacht werd? - Hoe belangrijk is het dat de bewoners ook betrokken worden bij natuurinclusief bouwen? - Wie heeft nu de verantwoordelijkheid voor het natuurinclusief bouwen?
<p>Coalities</p> <ul style="list-style-type: none"> - Hoe is de samenwerking met de gemeente verlopen bij Olstergaard? - Hoe is de samenwerking binnen het kwaliteitsteam verlopen? - Hebben jullie nog samengewerkt met andere partijen bij Olstergaard? En bij de Noorderkoeslag?
<p>Afsluiting, zijn er nog vragen of opmerkingen?</p>

Project developer Roosdom Tjhuis B.V.

Intro:

Voorstellen, doel interview, aanpak, anonimiteit, tijdsduur

Ik doe onderzoek voor mijn master ruimtelijke planning aan de Radboud universiteit naar de transitie naar natuurinclusief bouwen. Voor dit onderzoek wil ik graag van verschillende actoren weten wat hun perspectief is op natuurinclusief bouwen. Dit onderzoek focust op de wijk Olstergaard in Olst in vergelijking tot de wijk Noorderkoeslag in Wijhe.

Natuurinclusieve maatregelen

- Bent u bekend met het begrip natuurinclusief?
 - Zo ja: wat is voor u natuurinclusief bouwen?
 - Welke ervaringen heeft u met natuurinclusief bouwen?
 - Wat vindt u van de filosofie achter natuurinclusief bouwen?
 - Hoe staat u tegenover het begrip natuurinclusief bouwen
 - Waarom vindt u dit wel/geen goed idee
 - Heeft u genoeg kennis in huis om natuurinclusief te kunnen bouwen?
 - Waarom is er wel/niet natuurinclusief gebouwd
 - Zo nee: uitleg geven wat het begrip inhoudt (kent u de wijk Olstergaard?)
 - **Het is een vrij breed begrip maar in de essentie gaat het erom dat de natuur en biodiversiteit al van de start van het project wordt meegenomen. In plaats van dat er achteraf maatregelen worden getroffen voor de verloren biodiversiteit moet juist vooraf al gekeken worden naar de lokale soorten en hierop ingespeeld worden met de bouw.**
 - Wat vindt u van de filosofie achter natuurinclusief bouwen?
 - Wat voor invloed denkt u dat een natuurinclusieve aanpak heeft op het bouwproces? Denk aan tijd, materialen en geld.
 - Klopt het dat jullie ook een aantal woningen bouwen voor Sallandwonen op de Noorder Koeslag? Daar zitten wel een aantal natuurinclusieve voorzieningen bij zoals voorzieningen voor vleermuizen en gierzwaluwen. Is dit ook in jullie eigen woningen opgenomen? Waarom niet/wel
- Op welke manier is er rekening gehouden met de biodiversiteit in de wijk Noorderkoeslag?
 - Hebben jullie daar regels voor gekregen vanuit de gemeente?
 - Jullie moeten ook voldoen aan de wet natuurbescherming, wat voor maatregelen nemen jullie om hieraan te voldoen?

Overheidsparticipatie en rules

- Wat voor overeenkomst over de grond is er gesloten met de gemeente? Wie heeft de grond in handen en wie heeft het meeste zeggenschap? Wat heeft dit voor invloed op het proces?
- Heeft u ook wel eens een project gehad waarbij de gemeente wel alle grond in handen had en hoe verschilt dit in de verhoudingen met de gemeente?
- In hoeverre heeft de gemeente bepaald wat voor soort woningen er gebouwd moesten worden? Hebben jullie daarin veel vrijheid gekregen?
- In hoeverre zijn de toekomstige bewoners betrokken bij het project Noorderkoeslag?
 - Wat is dan echt de invloed geweest van de bewoners op het proces?

- Hebben jullie zelf contact gezocht met de bewoners of is dit via een andere partij (de gemeente) gegaan?
- Bij de woningcorporatie Sallandwonen gaven ze aan dat ze geen verplichtingen hebben gekregen vanuit de gemeente voor participatie, hoe is dat bij jullie gegaan?
- Hoe is de samenwerking en communicatie met de gemeente?

Coalities

- Hoe is de samenwerking met andere partijen verlopen bij dit project?
 - Met wat voor partijen hebben jullie samen moeten werken? Schakelen jullie bijvoorbeeld ook adviesbureaus voor groen in?
 - Wat was de verhouding met de gemeente? Is dit erg formeel of informeel? Is het echt een samenwerking of is er een hiërarchie
- Zijn jullie geïnteresseerd om in de toekomst natuurinclusief te gaan bouwen?
 - Zo ja/ nee waarom?
 - Wat zouden factoren zijn waardoor jullie wel meer interesse zouden hebben in natuurinclusief bouwen?

Afsluiting

Heeft u nog vragen of opmerkingen?

Policy developer provincie Overijssel

Voorstellen, doel interview, aanpak, anonimiteit, tijdsduur

Ik doe onderzoek voor mijn master ruimtelijke planning aan de Radboud universiteit naar de transitie naar natuur inclusief bouwen. Voor dit onderzoek wil ik graag van verschillende actoren weten wat hun perspectief is op natuurinclusief bouwen. Dit onderzoek focust op de wijk Olstergaard in Olst in vergelijking tot de wijk Noorderkoeslag in Wijhe.

Natuurinclusief bouwen

- Bent u op de hoogte van het project Olstergaard in Olst?
- In hoeverre is de provincie daar dan bij betrokken?
- Hebben jullie samengewerkt met de gemeente Olst Wijhe om dit project mogelijk te maken en op welke manier?
 - Bij nee: Jullie proberen met het platform natuur voor elkaar ook voornamelijk kennis uit te wisselen, hoe kan het dan dat er bij dit project helemaal niet is samen gewerkt?
- Wat is jullie definitie van natuurinclusief bouwen?

- Hoe zorgen jullie ervoor dat er natuurinclusief gebouwd kan worden in de provincie?
- Wat maakt volgens u het wonen in een natuurinclusieve wijk aantrekkelijk voor potentiële bewoners?
- Er wordt waarschijnlijk een woondeal gesloten in de regio zwolle-deventer, het zou natuurlijk mooi zijn als al deze huizen natuurinclusief gebouwd worden, is dat mogelijk en hoe zou dat mogelijk zijn?
- Wat denkt u dat er nu echt nog nodig is om meer natuurinclusief te bouwen?

Actoren en coalities

- Ik heb ook met iemand van Sallandwonen gesproken en hij had het over een soortenmanagementplan die samen met een aantal partijen waaronder de provincie is opgesteld, wat houdt dit precies in? Hoe is dit precies tot stand gekomen?
- Werkt de provincie nog samen met andere partijen?
- Wat voor rol zou een projectontwikkelaar aan moeten nemen in het natuurinclusief bouwen volgens u?
- Er wordt ook wel gezegd dat er vraag moet zijn vanuit de bewoners, hoe ziet u dit, denkt u dat er vraag naar is of dat dit vanuit de bewoners moet komen?

Resources

- Hebben jullie bepaalde middelen om gemeenten te kunnen stimuleren of zelfs verplichten om natuurinclusief te bouwen?
- Wat ik ook te horen heb gekregen is dat de handhaving van natuurinclusieve maatregelen belangrijk is. Als er standaard bij een huis nestkasten worden geleverd en hagen in plaats van een schutting, is er een grote kans dat de bewoners dit er na oplevering van het huis weer af halen.
- Wat voor rol spelen tijd en geld bij natuurinclusief bouwen?
 - Ik heb ook wel gehoord dat het bij een project ook aan het budget ligt of er natuurinclusief gebouwd kan worden? Wat vindt u hiervan en hoe kan de provincie daarbij helpen?

Rol van de overheid

- Wat voor rol speelt de provincie in het realiseren van natuurinclusief bouwen?

- Hoeveel invloed hebben jullie als provincie?
 - Is dit formeel of informeel?
- Wat voor rol zou een gemeente aan moeten nemen om natuurinclusief bouwen mogelijk te maken? Meer faciliterend of juist meer sturend?
- Bij wie ligt de verantwoordelijkheid volgens u om natuurinclusief te bouwen?
- In hoeverre denkt u dat participatie een rol kan spelen bij natuurinclusief bouwen?

Afsluiting

Zijn er nog vragen of opmerkingen

Appendix 2: Focus group interview

Intro:

Voorstellen, doel interview, aanpak, anonimiteit, tijdsduur

Ik doe onderzoek voor mijn master ruimtelijke planning aan de Radboud universiteit naar de transitie naar natuurinclusief bouwen. Voor dit onderzoek wil ik graag van verschillende actoren weten wat hun perspectief is op natuurinclusief bouwen. Dit onderzoek focust op de wijk Olstergaard in Olst in vergelijking tot de wijk Noorderkoeslag in Wijhe.

Het is wel handig als we eerst even een kort voorstelrondje doen, stel jezelf even voor met je naam, misschien leuk om te zeggen waar je nu woont en in wat voor soort woning je gaat wonen op de Olstergaard.

Ik heb een aantal stellingen gemaakt. Ik ga zo mijn scherm delen en dan laat ik een stelling zien. Jullie mogen dan het antwoord in de chat schrijven, en dan krijgen jullie allemaal de gelegenheid om je antwoord toe te lichten en op elkaar te reageren.

Ik heb 6 stellingen die ik in ieder geval wil voorleggen. Dus dan moeten we even kijken hoe lang we per stelling kwijt zijn en hoe snel we eventueel door moeten naar de volgende stelling.

- De reden dat ik in de wijk Olstergaard ga wonen is omdat de wijk natuurinclusief is
 - o Sterk mee eens
 - o Mee eens
 - o Neutraal
 - o Mee oneens
 - o Sterk mee oneens

- Ik had van tevoren al genoeg kennis van natuurinclusief bouwen, of wilde mij inzetten om deze kennis op te doen

- Het is duurder om natuurinclusief te bouwen

- Ik vind dat mijn stem voldoende is gehoord in het participatieproces

- Ik vind dat wij als bewoners genoeg ruimte hebben gekregen voor onze eigen ideeën

- Ik vind dat het kwaliteitsteam veel toegevoegde waarde heeft

- Welk van deze twintig natuur inclusieve maatregelen nemen jullie op in de woning?
 - o Plaatje met 20 maatregelen laten zien

Slot

Heeft iemand nog een opmerking of een vraag of iets anders wat hij/zij kwijt wilt wat relevant kan zijn voor dit onderzoek

Appendix 3: observation scheme

Concept	Aantekeningen van de observatie
Regels en (overheids)participatie	
Discourse	
Hulpbronnen en macht <ul style="list-style-type: none"> - Geld - Tijd - Kennis 	
Actoren en samenwerkingen	
Natuurinclusieve maatregelen <ul style="list-style-type: none"> - Natuur vanaf het begin meenemen - Positieve effecten voor zowel natuur als mens - Een toevoeging aan de bestaande maatregelen voor natuurbehoud - 26 voorbeelden - Naar lokale soorten kijken 	

Appendix 4: coding

Nature inclusive measures

- 26 examples of NI measures
- Addition to general nature conservation laws
- Consider nature upfront
- Definition nature inclusive
- Knowledge of local conditions
- Positive for both people and nature

Policy arrangements

- Actors
- Positive coalition
- Negative coalition

- Discourse
- Housing shortage
- Demand to nature inclusive measures
- Positive attitude towards NI building
- Negative attitude towards NI building

- Knowledge
- Money
- Time
- Space
- Maintenance

Rules and involvement government

- Formal rules
- Informal rules
- Low involvement government
- High involvement government

Participation

- Participation residents