

Transformative landscape governance

Unraveling the transformative potential
of partnerships for biodiversity

Susan de Koning



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Unraveling the transformative potential of
partnerships for biodiversity

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Transformative landscape governance

Unraveling the transformative potential of partnerships for biodiversity

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“As I traveled, I came to believe that people’s desires and aspirations were as much a part of the landscape as the wind, solitary animals and the bright fields of stone and tundra. And, too, that the land itself existed quite apart from these.”

Barry Lopez, Arctic Dreams, xxviii

Table of Contents

1 Introduction	9
Part 1 Transformative governance	51
2 Transformative change for biodiversity <i>A review on the contribution of landscape-oriented partnerships</i>	53
3 Reimagining National Parks <i>From nature reserves towards transformative partnerships</i>	79
Part 2 Conditions for change	113
4 Landscape discourses and rural transformations <i>Insights from the Dutch Dune and Flower Bulb Region</i>	115
5 Amplifying the transformative impact of landscape-oriented partnerships <i>Understanding conditions for and interactions of amplification processes</i>	147
6 Conclusion and reflections	175
References	209
List of abbreviations	245
List of figures	247
List of tables	251
Research data management statement	253
Appendices chapter 2 to 5	255
Summary Transformative landscape governance <i>Unraveling the transformative potential of partnerships for biodiversity</i>	303
Samenvatting Transformatieve landschapssturing <i>Het ontrafelen van het transformatief potentieel van partnerschappen voor biodiversiteit</i>	315

About the author	327
List of publications	331
Dankwoord	337



1 Introduction

1.1. Restoring and conserving biodiversity in rural landscapes

1.1.1. Transformative change for biodiversity

“*God created the world, but the Dutch created the Netherlands*”. This Dutch proverb highlights the role of the Dutch people in changing the landscapes they inhabit. In the Netherlands, reshaping our landscapes was driven by a continuous threat of flooding and the need for land that was suitable for agricultural purposes (Engel et al., 2011; van der Woud, 2020). While the Netherlands might seem to be an extreme case, people have changed the landscapes they inhabit all over the world, which together accounts for the alteration of 75% of the land surface (IPBES, 2019). This has impacted ecosystems worldwide (IPBES, 2019), thereby losing and threatening many species (Groom, 2006; Monastersky, 2014; WWF, 2024). 50% of the wildlife populations that the World Wild Fund for Nature (WWF) monitors have been in decline since 1970, with an average decrease in population size of 73% (Ritchie and Spooner, 2024; WWF, 2024). In total, 46,300 animal and plant species are threatened with extinction worldwide (IUCN, 2024). Some groups of species are especially in danger, such as amphibians, of which 40% of all species are threatened, and reef-forming corals, sharks, and marine mammals, of which 30% are threatened (IPBES, 2019).

In the early years of nature conservation, conservation was focused on wild landscapes, exemplified by the development of national parks in the United States of America (USA), such as Yellowstone National Park in 1872. Later on, conservationists started to worry about the loss of species (Adams and Hutton, 2007; Leltz *et al.*, 2022). The loss of biological diversity became a central concern, a term coined and popularized by Tom Lovejoy and Edward O. Wilson (Lovejoy, 1980; Wilson, 1985; Gliessman, 2022). Currently, biodiversity is generally used as a shortened version of biological diversity.

In 1992, the conservation of biodiversity became internationally institutionalized via the adoption of the Convention on Biological Diversity (CBD) in Rio de Janeiro during the UN Conference on Environment and Development (UNCED). This multilateral treaty defines biodiversity as “*the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems*” (CBD, 1992).

The concept of biodiversity is criticized because of its use in ‘Western’ conservation movements. According to some critics (Adom *et al.*, 2019; Pascual *et al.*, 2021), these conservation movements focus too much on pristine areas and emblematic wildlife and thereby exclude other perceptions of nature. Despite this critique, biodiversity is still the dominant way scientists refer to ‘nature’ in terms of its genetic diversity, species diversity, and diversity of ecosystems. Some people equate biodiversity with ‘nature’, ‘natural resources’, or the ‘living world’. Though the term biodiversity has a scientific origin, studies show that people associate a wide variety of things with biodiversity, including the relation and interactions between humans and nature (Fischer and Young, 2007; Bernardo, Loupa-Ramos and Carvalheiro, 2021).

Biodiversity loss is detrimental to humans because of all the contributions to human wellbeing, including food, clean air, and clean water. However, protecting biodiversity is also important because of its relational and intrinsic value (Chan, Gould and Pascual, 2018; Díaz *et al.*, 2018). In contrast to valuing nature because of its direct contribution to human wellbeing (instrumental value), relational and intrinsic values refer respectively to the value that is derived from human-nature relationships and the value that nature has for its own sake (Ghijselincx, 2023).

The way in which human societies have governed the conservation and restoration of nature and biodiversity (hereafter: biodiversity governance) has changed over time. Biodiversity is currently governed and protected via a variety of treaties, policies, and regulations at different governance levels.

At an international level, the focus of biodiversity governance has broadened, from the CBD in 1992 to the development of the Sustainable Development Goals (SDGs) by the United Nations in 2015, in which biodiversity became integrated into a set of broader sustainability goals (UN, 2015). SDG 14 (Life below water) and 15 (Life on land) are specifically focused on biodiversity conservation and restoration, but others, such as 12 (Responsible consumption and production) and 13 (Climate action), also impact biodiversity. The most recent development in international biodiversity governance is the (GBF), which was adopted in Montreal in 2022 and aims to “*catalyze, enable and galvanize urgent and transformative action by Governments, and subnational and local authorities, with the involvement of all of society, to halt and reverse biodiversity loss*” (p. 4, CBD, 2022). Thus, from a focus on the conservation of wild landscapes, international biodiversity governance is now focused on addressing the variety of drivers of biodiversity loss to ‘bend the curve’ (see Figure 1) (Mace *et al.*, 2018).

In Europe, we have seen similar developments. Biodiversity governance used to be focused on protecting species and habitats, for example, through the Bird and Habitat Directive and the establishment of Natura 2000, a network of protected areas throughout Europe (EU, 1992, 2008, 2019a). This scope has broadened, for example, via the European Green Deal, the European Biodiversity Strategy, and the Nature Restoration Law (EU, 2019b, 2020, 2022). These new policies focus more on addressing the drivers of biodiversity loss outside of protected areas, such as unsustainable agricultural practices, and also include goals for biodiversity protection outside of what we deem as ‘natural areas’. For example, the Nature Restoration Law entails goals concerning urban tree canopy cover (EU, 2022a).

In the Netherlands, the focus of nature conservation has also shifted from solely focusing on ‘wild lands’ in the past (pre-WWII) to including cultural landscapes (post-WWII) (Leenders, Mennen and van Meurs, 2023). More recently, this has further shifted to a focus on combining several environmental challenges at a time, such as climate change, water quality, and biodiversity, in an integrated manner (Ministerie van LNV, Ministerie van I&W, and Ministerie van BZK, 2022)¹. Through these developments at an international, European and national level, biodiversity governance no longer only concerns ‘wild’, ‘pristine’ or ‘natural’ areas or the protection of specific species but is now also concerned with different sectors that impact biodiversity, such as agriculture, and different landscapes, such as urban and rural landscapes.

The recent changes in biodiversity governance are driven by the idea that current conservation efforts, such as restoration programs and conservation through protected areas, are insufficient to halt biodiversity loss. Therefore, more fundamental changes in the so-called drivers of biodiversity loss are needed (Leclère et al., 2020). The drivers of biodiversity loss are commonly divided into direct and indirect drivers. Direct drivers include, for example, habitat loss and pollution, while indirect drivers include, for example, our consumption and production systems, human demographic developments, and governance (Díaz et al., 2019; Isbell et al., 2023). An often-mentioned indirect driver is the currently prevailing growth-based economic system, which leads to, among other things, the overexploitation of natural resources such as forests and fish populations (O’Rourke and Lollo, 2015; Kallis *et al.*, 2018; Díaz *et al.*, 2019). The importance of addressing indirect drivers is depicted in Figure 1, which shows a graphical depiction of three scenarios for the future of biodiversity. The first two show the expected effects of current (‘business-as-usual’) and increased conservation efforts. The third scenario

1. In the last year of the research for this dissertation (2024), a new government decided to stop the landscape-oriented policy program called ‘NPLG’.

shows the expected effects of addressing the indirect drivers of biodiversity loss, assuming that only fundamental system changes will prevent further losses and restore biodiversity.

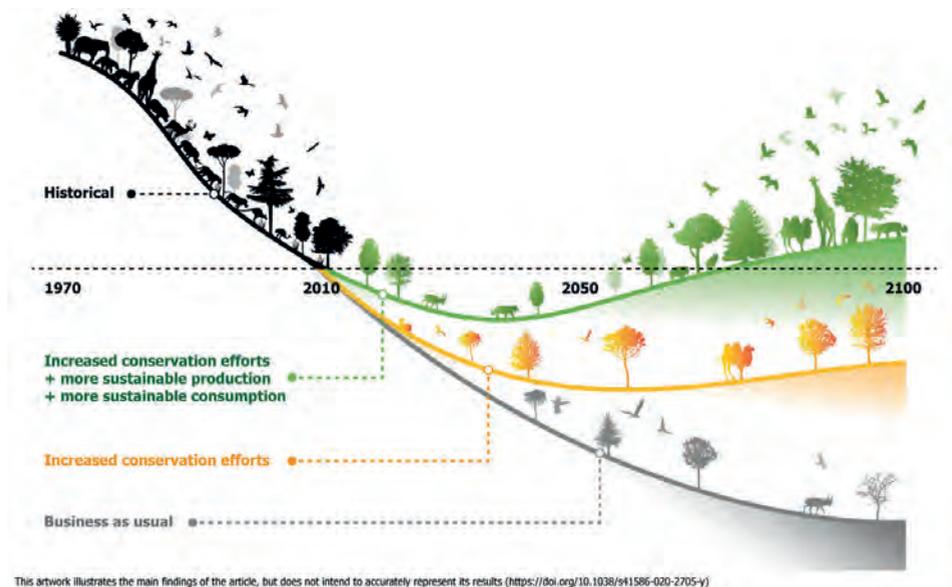


Figure 1: *Bending the curve of biodiversity loss* (Artwork based on Leclère et al., 2020).

In the Netherlands, biodiversity is also declining, especially in rural landscapes due to intensification and landscape fragmentation (WWF, 2020; Kwak and Kooijmans, 2021). Figure 2 depicts the trend of farmland birds, showing a substantial overall decline since 1960 (CLO, 2024). Thus, agricultural expansion and intensification, driven by changing consumption patterns and growing populations, are part of the key drivers of biodiversity loss. Though ‘unsustainable production systems’ as a whole are often regarded as an indirect driver, agricultural systems consist of both direct and indirect drivers of biodiversity loss. Direct drivers are, for example, the use of pesticides or fertilizers, while indirect drivers refer to the “*scope and context in which direct drivers in agricultural practice are embedded*” (p. 1067, Mupepele et al., 2021). Examples of indirect drivers related to agriculture are farming subsidies, market dynamics, and rules and regulations (ibid.). However, there are also less tangible indirect drivers within agriculture, such as the image of the ‘good farmer’, which influences how farmers perceive agricultural practices (Burton et al., 2020; Westerink et al., 2021) or dominant discourses regarding ‘sustainable agriculture’ (Constance, Konefal and Hatanaka, 2018).

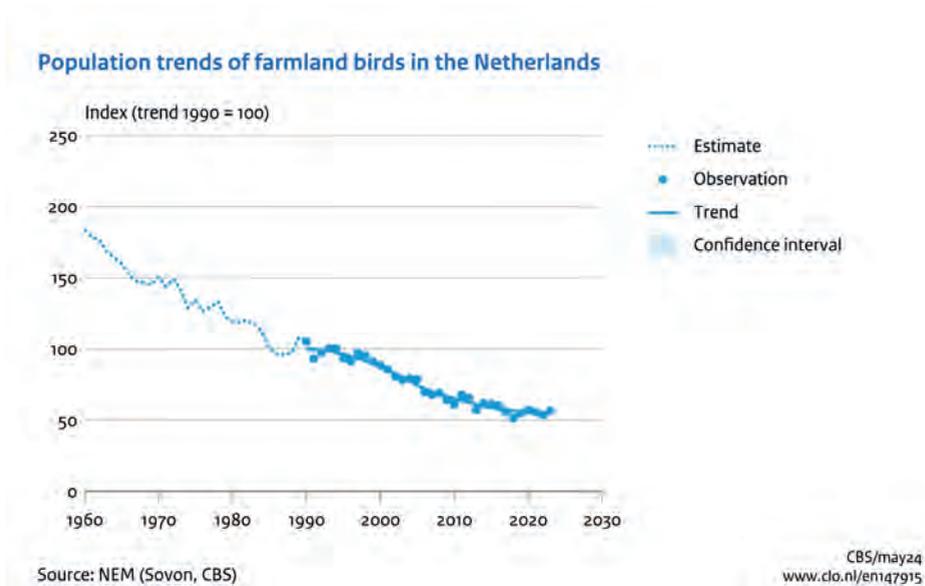


Figure 2: Population trends of farmland birds in the Netherlands (CLO, 2024).

Bending the curve of biodiversity loss requires addressing both the direct and indirect drivers of biodiversity loss, which will, by definition, lead to fundamental societal changes. That is why scientists and policymakers are increasingly focusing on the need for ‘transformative change for biodiversity’. The Global Assessment of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) defines transformative change as “*A fundamental, system-wide reorganization across technological, economic and social factors, including paradigms, goals, and values*” (IPBES, 2019). Hence, emphasis is placed on the paradigms, goals, and values part, as these are seen as one of the deepest leverage points for system change (Meadows, 2008; Abson *et al.*, 2017; Leventon, Duşe and Horcea-Milcu, 2021). In the most recent work of IPBES, they distinguish between direct drivers, indirect drivers and the ‘underlying causes’ of indirect drivers, of which “*disconnection from and domination over nature and people*” and “*prioritization of short-term, individual and material gains*” are two examples of ‘underlying causes’ that relate to paradigms, goals and values (IPBES, 2024).

In this thesis, I regard paradigms, goals, and values as part of the indirect drivers of biodiversity loss, though I recognize that through their profound influence on other indirect drivers, and thereby deep system leverage, they are the most important ones to address for transformative change to come about.

Taken together, understanding the relation between goals, values, and paradigms on the one hand, and technological, economic, and (other) social factors, is central to advancing the understanding of more effective biodiversity governance.

1.1.2. Governing landscapes

Despite an increasing recognition of the need for transformative change, there is still an ongoing discussion on how to realize such transformative change. Many authors agree that new types of governance are needed to address transformative change. These discussions revolve around the suitable policy instruments, levels, and scales for ‘transformative governance’ (Patterson *et al.*, 2017; Linnér and Wibeck, 2019; Visseren-Hamakers *et al.*, 2021; Massarella *et al.*, 2021; Pascual *et al.*, 2022; Visseren-Hamakers *et al.*, 2022). While some propose global governance solutions (Adams, 2017; Dinerstein *et al.*, 2017; Pimm, Jenkins and Li, 2018), others propose landscape-oriented governance or a focus on the interaction between local and global governance, where landscapes are the starting point of the analysis (Leventon *et al.*, 2019; Meijer *et al.*, 2021; Osborne *et al.*, 2021).

Landscapes are formed through the interactions between human activities and natural-spatial conditions (which have resulted in a ‘physical’ landscape), but landscapes are also inherently socially constructed and thereby political (Görg, 2007; Gailing and Leibenath, 2017; Di Giminiani and Fonck, 2018). Landscapes are multi-functional; they contain, for example, areas that are dedicated to food production, nature conservation, and housing. By governing biodiversity on a landscape scale instead of solely focusing on protected area management, the actors and drivers of biodiversity loss surrounding and influencing the protected area can be included and addressed, an approach that has already been promoted for a long time (Lu, Chou and Yuan, 2005).

Moreover, the impact of global developments such as climate change becomes visible/materialized in landscapes (Meijer *et al.*, 2021). Taking the landscape as the point of departure turns the focus on how local, regional, national, and global developments influence change and stability in a specific area (the landscape) and vice versa (Cortés-Capano *et al.*, 2025). However, there has not yet been much research on to what extent and how governing biodiversity at the landscape level can contribute to transformative change. In other words, can we conserve and restore biodiversity through transformative landscape governance?

One way in which landscape governance can be practiced is via the development of landscape-oriented partnerships (Mugo, 2021). Partnerships are inherently

multistakeholder and collaborative, aiming at delivering a ‘public good’, such as biodiversity conservation (Peters, 1998; Glasbergen, 2007). They are therefore potentially fit to deal with the multifunctionality and cross-sectoral challenges of landscapes.

In the Netherlands, governmental organizations and non-governmental organizations (NGOs) are promoting local and regional collaborations as a way to halt biodiversity decline (Deltaplan Biodiversiteitsherstel, 2018; Runhaar and Polman, 2018; Ministerie van LNV, 2019; Kwak and Kooijmans, 2021). There is great confidence in landscape-oriented collaboration, or ‘gebiedsgerichte samenwerking’ or ‘aanpak’ in Dutch, which is seen as the way forward to deal with the multiple challenges that society faces (Gavin et al., 2018), especially in rural landscapes. In the Netherlands, the nitrogen crisis and the accompanied changes in policies have further strengthened this feeling that to achieve something, it is “*landscape-oriented collaboration or nothing*”, as stated by the Provincial Executive of Brabant at a meeting on welfare in rural landscapes (2025).

Hence, landscape-oriented partnerships have attracted substantial attention in policy debates in the Netherlands on how to restore biodiversity in rural landscapes. Therefore, it is important to reflect on the merit of such partnerships, or whether it is, for example, a way to outsource the challenge of biodiversity conservation from higher to lower governance levels.

1.1.3. Landscape-oriented partnerships: potential or plague?

Various scholars see partnerships as potentially effective policy instruments because they may achieve goals that individual actors (such as governments or companies) cannot achieve on their own by bringing together the complementary resources and capacities of the different actors (Bryson, Crosby and Stone, 2006; Van Huijstee, Francken and Leroy, 2007; Bitzer, Glasbergen and Arts, 2013; Bitzer and Glasbergen, 2015).

Authors also take a more critical stance towards partnerships, assuming that partnerships can undermine the role of government in governance (Visseren-Hamakers, Leroy and Glasbergen, 2012). As partnerships are often focused on achieving shared goals, there may be limited space for fundamental discussions and thus fundamental changes (Visseren-Hamakers, 2013). Other researchers even see the use of partnerships in conservation as a form of depoliticizing nature, which can reproduce and maintain existing inequalities (Apostolopoulou *et al.*, 2014). In partnerships, partners are often the ‘usual suspects’ (Sherlock, Kirk and

Reeves, 2004), thus potentially reinforcing the status quo. This might result in partnerships inhibiting change or contributing to incremental change instead of transformative change.

Despite the volume of research on the role of partnerships in sustainable development and biodiversity (Visseren-Hamakers, 2009; Pattberg and Widerberg, 2016), there is little research on partnerships that work on biodiversity conservation and restoration in specific landscapes (Mugo, 2021), let alone on their contribution to transformative change. In this thesis, I aim to fill this gap in the literature by studying the potential of landscape-oriented partnerships to contribute to transformative landscape governance for biodiversity. Thereby, I define landscape-oriented partnerships as “*voluntary arrangements in which combinations of state, market and/or civil society actors collaborate to contribute to biodiversity restoration or conservation in a specific landscape*” (**chapter 2**, de Koning *et al.*, 2023).

1.2. Theoretical framework

To understand to what extent and how landscape-oriented partnerships can contribute to transformative change, this section introduces the main scientific debates and theoretical building blocks with which this subject is studied in this thesis. First, it is important to understand how transformative change is conceived in the literature (1.2.1). I then combine the literature on (new) types of governance that may contribute to transformative change, namely landscape governance and transformative governance (1.2.2.).

As stressed by the work of IPBES (2019, 2024), goals, values, and paradigms are key indirect drivers, which can underpin other indirect drivers. For effective biodiversity governance, we must therefore understand whether and how these goals, values, and paradigms can be changed, and how they can have a long-lasting impact by influencing other indirect drivers, such as technological systems and other social factors. In section 1.2.3., I therefore introduce a discursive-institutionalist perspective to the study of transformative change, which can help study the interplay between goals, values, and paradigms on the one hand, and formal and informal institutions on the other hand. The final section, 1.2.4, summarizes the theoretical arguments under what conditions landscape-oriented partnerships may have transformative potential.

1.2.1. Transitions and transformations

To understand whether landscape-oriented partnerships can contribute to transformative change, it is important to understand what such change encompasses. The concept of transformative change is based on two strands of literature: the transition and transformation literature (Hölscher, Wittmayer and Loorbach, 2018; Visseren-Hamakers *et al.*, 2022). Both concepts are generally used to refer to systemic, non-linear, non-incremental change (Linnér and Wibeck, 2019). Before I discuss how I use both concepts in the study of transformative change, I first briefly introduce them.

Transition theory is generally focused on changes in so-called socio-technical systems. Change in these systems can be studied using the multi-level perspective (MLP), which distinguishes between the niche, regime, and landscape level (see Figure 3) (Geels, 2002). The regime (sometimes also called system) is the current configuration of a sector, and consists of actors, networks of these actors, rules, and institutions (Geels, 2005; Fuenfschilling and Truffer, 2014). The different elements of a regime have co-evolved, thereby creating stability. Therefore, the regime itself will not fundamentally change unless its stability is put under pressure by contextual developments, which are grouped under the term ‘socio-technical landscape’ (Geels and Schot, 2007; Essletzbichler, 2016; Geels, 2018). Niches are protected spaces in which new and radical innovations can develop, such as universities, companies, or even grassroots organizations (Geels and Schot, 2007; Seyfang and Smith, 2007; Flood Chavez, Niewiadomski and Jones, 2024). When moving from the niche level to the regime and landscape level, the system becomes more complicated and stable, which is one of the reasons why transitions are difficult to accomplish (Grin, Rotmans and Schot, 2010). For niches to impact (or become) regimes, MLP assumes that niches must develop (articulate visions, build networks, and go through learning processes) to be able to be incorporated into current regimes or replace regimes once these are put under pressure of socio-technical landscape developments, creating a window of opportunity (Geels, 2011).

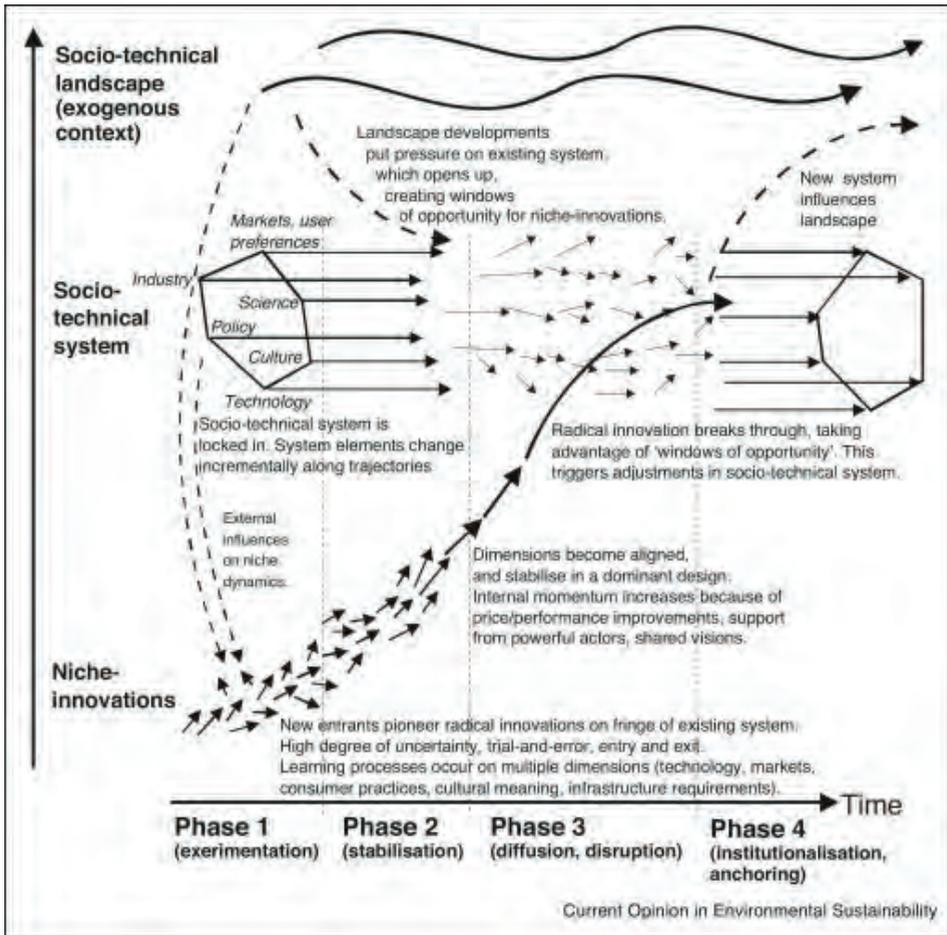


Figure 3: Multi-level perspective on socio-technical transitions (p. 191, Geels, 2019).

While studying transitions has been a particularly dominant way of approaching sustainability issues for a long time, the concept of transformations is becoming more and more popular and widespread in both science and policy. A transformation not only takes place within socio-technical systems but in socio-technical-ecological systems, thereby widening the sectoral scope of transition theory (Patterson *et al.*, 2017). Words that are often used in relation to transformations are 'fundamental', 'profound', 'substantial', 'structural', and sometimes also 'radical' (Brown, O'Neill and Fabricius, 2013; Feola, 2015; Hölscher, Wittmayer and Loorbach, 2018; Westerink *et al.*, 2023). The focus is on changing the systems that govern our society (Chapin *et al.*, 2010), therefore, some also propose to use the term societal changes rather than systemic change (Visseren-Hamakers and Kok, 2022a).

Currently, there is not one dominant definition of a transformation (Feola, 2015). Rather, different schools of thought have their own definition, such as the literature on deliberate transformations, which defines transformations as “*physical and/or qualitative changes in form, structure or meaning-making. It can also be understood as a psycho-social process involving the unleashing of human potential to commit, care, and effect change for a better life*” (p. 4, O’Brien, 2012). Another definition of transformations states that it “*is a discrete process that fundamentally (but not necessarily irreversibly) results in change in the biophysical, social, or economic components of a system from one form, function or location (state) to another, thereby enhancing the capacity for desired values to be achieved given perceived or real changes in the present or future environment*” (Park *et al.*, 2012). Linnér and Wibeck, (2019) have tried to summarize existing definitions and came to the following definition: “*Societal transformations infer profound and enduring non-linear systemic changes, involving social, cultural, technological, economic, and/or environmental processes*” (p. 4). While these definitions focus on the process of change, others focus more on the outcome, which could for example, be a completely new social-ecological system (Nelson, Adger and Brown, 2007). More often, authors do not use one clear-cut definition or refer to slightly different terms, such as ‘transformational change’ (Abson *et al.*, 2017).

The commonality between transitions and transformations is that they focus on fundamental changes instead of incremental changes but their focus and scope of analysis can differ (Feola, 2015; Hölscher, Wittmayer and Loorbach, 2018). The extent to which they can be controlled, and thus governed, also differs. Whereas some authors argue that transitions can be ‘managed’, transformations are more about challenging existing, unsustainable structures. In transitions, market actors, scientists, and governments play an important role, while in transformations, civil society, such as social movements or NGOs, play a more important role (Stirling, 2015).

One way to bridge between these different concepts is by using the term transformative change. As mentioned before, transformative change is defined by IPBES as “*A fundamental, system-wide reorganization across technological, economic and social factors, including paradigms, goals, and values*” (IPBES, 2019). As discussed in section 1.1.1., transformative change is about addressing indirect drivers of biodiversity loss (Coffey *et al.*, 2022; Dupuis *et al.*, 2023). In the field of biodiversity conservation, both ecological and social scientists assume that addressing the different drivers of biodiversity loss is the way forward to realizing transformative change for biodiversity (Weatherley-Singh and Gupta, 2015; Leclère

et al., 2020; Tickner *et al.*, 2020; Mupepele *et al.*, 2021; Visseren-Hamakers *et al.*, 2021; Pascual *et al.*, 2022).

Transformative change involves changes at different levels, ranging from the individual level, such as changes in values and individual behaviors, to the societal level. Societal level changes could, for example, refer to new policies or regulations, or changes in our economic system(s) (Kendal *et al.*, 2018; Naito, Zhao and Chan, 2022). Thus, while transitions theory focuses on changes in socio-technical systems, and many transformation scholars focus on changes in socio-technical-ecological systems or society as a whole, transformative changes are fundamental changes that can occur at different levels and scales. Thus, ranging from individual farms, such as a farmer who converts to organic agriculture (von Oelreich and Milestad, 2018; Zagata, Uhnak and Hrabák, 2021), to society as a whole, for example, when a nation-state implements rights for nature (Borràs, 2016; Hopewell, 2019; Guayasamin *et al.*, 2021). In other words, transformative change can take place in different social-ecological systems, whether at the level of society as a whole or on the level of a single farm or landscape.

In studying the role of landscape-oriented partnerships in transformative change, I focus on two things: first, to what extent do partnerships address indirect drivers and follow the principles of the transformative governance literature, and two, what conditions influence the transformative potential of landscape-oriented partnerships, thereby using the discursive institutionalist literature. In the next two sections, I discuss these two bodies of literature.

1.2.2. Transformative landscape governance

‘Governance’ itself is a term that is used in many different ways. While it used to be used to refer to governmental steering, it is currently used to refer to all the different ways in which there is ‘governance without government’, or to analyze the shift from ‘government to governance’ (Rosenau and Czempiel, 1992; Lafferty, 2006; Kjaer, 2023). For example, through the self-organization of communities, or the development of private or public-private steering mechanisms such as partnerships (Ostrom, 1990; van Kersbergen and Waarden, 2001). In practice, this often is ‘governance with government’, as governments are generally involved in such governance arrangements. A good example of ‘governance without government’ in environmental governance is the Forest Stewardship Council, which did influence national forestry law and policies (Pattberg, 2005; Visseren-Hamakers and Glasbergen, 2007), thereby showing how, in the governance era, the lines between public and private steering can be blurred.

While the focus on governance as ‘steering’ is inherently process-oriented, some also use the term governance to refer to the structure, or architecture of institutions (Levi-Faur, 2012). In this thesis, I use both perspectives by referring to partnerships as governance arrangements (governance as a structure) (Glasbergen, 2007; Arnouts, van der Zouwen and Arts, 2012; Newell, Pattberg and Schroeder, 2012) and studying their contribution to biodiversity governance (governance as a process).

In the environmental governance literature, biodiversity governance has received less attention than, for example, climate governance. This is not only true for scientific literature. In popular culture, environmental governance is more associated with climate change than with biodiversity, and climate institutions such as the Intergovernmental Panel on Climate Change (IPCC) are more well-known than their biodiversity equivalents, in this case, the IPBES (Anon, 2010; Brooks, Lamoreux and Soberón, 2014). One of the issues with biodiversity is that it is complicated to aggregate knowledge on biodiversity, as there is no single, accepted measure for biodiversity. Moreover, biodiversity is seen by some as something that should be addressed in a way that aligns with how people know and relate to biodiversity in different landscapes (Brooks, Lamoreux and Soberón, 2014; Turnhout, Dewulf and Hulme, 2016). Thus, biodiversity governance needs a multi-scale and multi-level approach, including the landscape level (Turnhout, Dewulf and Hulme, 2016).

This brings us to the concept of landscape governance, which, as introduced in section 1.1.2., refers to governance that focuses on the landscape level, in which the definition of the landscape is not based on jurisdictional boundaries but on social constructions of the landscape. Landscape governance is defined differently by different authors and schools of literature. Some talk about landscape approaches, others about multi-functional landscape governance or landscape management strategies, and others just about multi-functional landscapes, in which multifunctionality and a participative form of governance is seen as self-evident in the context of landscape governance (van Oosten, Runhaar and Arts, 2019; Reed *et al.*, 2020, p. 20; Neyret *et al.*, 2023; Fors *et al.*, 2024; Öhman and Karlsson, 2025). A famous description and definition of landscape governance can be found in the work of Görg, who defines landscape governance as governance that “*deals with the interconnections between socially constructed spaces (the politics of scale) and “natural” conditions of places*” (p. 954, Görg, 2007).

While some literature on landscape governance, such as the work on landscape approaches (Sayer *et al.*, 2013; Reed, Deakin and Sunderland, 2015), can be quite

prescriptive, the work of Görg is more analytical. Landscape governance as an analytical lens turns the attention to processes and outcomes of 'glocal' processes between multiple policy levels, actor networks, and natural-spatial conditions (material aspects of the landscape) (Bulkeley, 2005; Görg, 2007; Buizer, Arts and Westerink, 2015).

In his description, Görg proposes that landscapes are socially 'shaped', not only in a social constructionist manner but also literally. The landscape is impacted by agriculture, construction, traffic, and many other human activities, but how we perceive the landscape also influences our relationship with the landscape (Görg, 2007). By perceiving a landscape as natural, or rural, and anchoring this perception in our spatial planning rules, we automatically act differently within and towards the landscape. Thus, the politics of scale, which refers to how we define the landscape, not only spatially but also, for example, in an aesthetic way (what do we find beautiful or characteristic of this landscape), interacts with the natural-spatial conditions, in other words, the material elements of the landscape (Brown and Purcell, 2005; Cash *et al.*, 2006; Görg, 2007). Consider, for example, how the soil, plants, and animals together, but not in isolation from human activities, constitute the landscape. This perspective on what a landscape is, is in line with the European Landscape Convention, which defines a landscape as "*an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors*" (p. 2, Council of Europe, 2000).

According to Görg, landscape governance should not be seen as something that applies only to pristine and natural landscapes. Another warning is to always keep in mind that there are different ways to comprehend the landscape, just as people within landscapes have different interests (Görg, 2007). Lastly, when focusing on landscapes in governance, the 'local trap' should be avoided, which is the assumption that local or regional governance is inherently better than governance at other scales or levels (Brown and Purcell, 2005).

This latter warning relates to the central issue of this thesis, which is the question of whether landscape-oriented partnerships can contribute to transformative change. As discussed in the previous section (1.2.1.), transformative change is about changing the indirect drivers of biodiversity loss. In any given landscape, some of these drivers will lie outside of the landscape, as we live in a highly connected and globalized world. However, they might be able to, by taking the landscape as a starting point of the analysis, map and address the relevant direct and indirect drivers, or contribute to part of the solution by addressing local drivers. To better understand whether and how landscape governance, through

landscape-oriented partnerships, can be or become transformative landscape governance, I therefore use the literature on transformative governance.

Transformative governance is a new field of inquiry within environmental governance, and thus also biodiversity governance. It is based on many existing bodies of literature within environmental governance, such as the literature on adaptive governance, socio-technical transitions, reflexive governance, and transition management (Chaffin *et al.*, 2016). The transformative governance literature assumes that transformative change can be intentionally directed and governed, although there remains considerable debate regarding how this can be achieved (Linnér and Wibeck, 2019; Visseren-Hamakers *et al.*, 2021). Hence, this literature assumes that there is a potential for agency in bringing about transformative change. Therefore, it is important to understand what strategies actors, and in this case, partnerships, can use to assert such agency. In this research, I therefore study the strategies of landscape-oriented partnerships to bring about transformative change.

Notwithstanding the ongoing debate about the potential to govern transformative change, significant efforts have already been made to define and study transformative governance. Before diving into the current literature, it is important to first make the distinction between *governance for transformations*, which refers to creating conditions for transformations, the *governance of transformations*, which refers to steering ongoing transformations, and *transformations in governance*, which refers to transformative change within governance itself (Patterson *et al.*, 2017; Linnér and Wibeck, 2019). In the use of the term transformative governance, people generally refer to all of these types of governance. In this thesis, I use the term transformative governance to refer to both *governance for* and *governance of transformations*. However, by studying whether partnerships, by implementing transformative governance, are part of a *transformation in governance*, I am also researching how a *transformation in governance* can actually contribute to *governance for transformations*.

Chaffin *et al.* (2016) makes a distinction between transformative governance and adaptive governance. According to them, transformative governance can help bring socio-ecological systems towards a desirable state, while adaptive governance can help maintain socio-ecological systems in a desirable state. However, whatever is perceived as a desirable state is an inherently normative decision, and thus, transformative governance is always political (Meadowcroft, 2011; Patterson *et al.*, 2017). By definition, transformative governance also includes changes in power relations (Loos *et al.*, 2024). Visseren-Hamakers *et al.* (2021) regard transformative

governance as consisting of different, complementary governance approaches, of which adaptive governance is one of them. The original four approaches (integrative, inclusive, adaptive, and pluralist governance) were adapted and extended by Visseren-Hamakers and Kok (2022), who changed pluralist into transdisciplinary governance and added anticipatory governance. What is important in both frameworks is that all of these approaches must be focused on addressing the indirect drivers of sustainability issues to be transformative. In this thesis, I have combined the conceptualizations and operationalizations of transformative governance by Visseren-Hamakers *et al.* 2021 and Visseren-Hamakers and Kok (2022) into one framework. In Table 1, the five approaches are listed together with the different principles through which they are operationalized in Visseren-Hamakers *et al.* (2021).

Table 1 : An overview of the five transformative governance approaches and their principles, based on Visseren-Hamakers *et al.* (2021) and Visseren-Hamakers and Kok (2022).

	Governance approach	Manner of operationalization in transformative governance (principles)
<i>Focused on addressing indirect drivers</i>	Integrative	Includes governance mixes Requires coordination, integration, and combination of strategies across sector, issues, levels of governance and places
	Inclusive	Addresses power asymmetries Empowers underrepresented rights-, knowledge- and stake-holders Recognizes new and innovative rights Emancipates those representing transformative sustainability values
	Adaptive	Stimulates dialogue, learning, and reflection Reflects complexity
	Transdisciplinary	Reflects diverse values, perspectives, and knowledge systems Adopts collaborative knowledge production systems Builds capacity for transformative governance
	Anticipatory	Utilizing the precautionary principle when governing in the present for uncertain future developments, and especially the development or use of new technologies

A key assumption of this framework is that transformative change can only occur when all five approaches are implemented in conjunction and are directed at indirect drivers. To what extent landscape-oriented partnerships incorporate these approaches in their work is one of the questions that is studied in this thesis. As a

starting point, I assume that there is a gradient between being focused on incremental changes and being fully transformative (Engbersen, Biesbroek and Termeer, 2024), which could, in the case of the transformative governance framework, mean that a partnership aligns with some of the approaches, some, but not all, principles per approach, or addresses some of the relevant indirect drivers of biodiversity loss. Currently, there have been few empirical studies into transformative governance, even though the five included governance approaches are based on well-established bodies of literature. This thesis is therefore one of the first to study transformative governance through empirical case studies.

To conclude this section on landscape and transformative governance, I propose to combine the two bodies of literature into a new concept, which I call transformative landscape governance. Transformative landscape governance for biodiversity includes all *landscape-oriented governance processes leading to, contributing to, or enabling fundamental changes in the indirect drivers of biodiversity loss, thereby conserving or restoring biodiversity in a specific landscape*. While the current section focuses on how partnerships could contribute to transformative change, in the next section, I discuss how I study processes of transformative change by using discursive institutionalist theory.

1.2.3. Discursive institutionalism

In the previous sections, I introduced theories on what transitions, transformations, and transformative changes are, and how governance scholars assume we can steer such change. While transition theory has become a fully developed school of thought, transformations and transformative change literatures are still very broad, and the scholars working in its field often use different theories and analyses, such as practice theory or social-ecological systems analysis (Feola, 2015). To study the transformative potential of landscape-oriented partnerships, I use discursive institutionalism as a theoretical lens alongside the theoretical framework of transformative governance.

There are two reasons why I have chosen this theory for this study. First, as stipulated by the work of IPBES (IPBES 2019, 2024), paradigms, goals, and values are an important part of the indirect drivers of biodiversity loss, as they underlie both direct and other indirect drivers of biodiversity loss, such as our economic system, a good example of an institution which has a far-reaching impact on all aspects of our society. New or changed paradigms, goals, and values that are transformative need to become institutionalized to have an impact on society and thus, biodiversity. As is explained below, discursive institutionalism is a theory that

explains how discourses, which can entail paradigms, goals, and values, can become institutionalized and thereby have a long-lasting impact on, for example, biodiversity. Thus, in addition to transformative governance, which can be used to study how partnerships are trying to bring about transformative change, discursive institutionalism can aid in studying whether we can witness transformative change. Second, a discursive institutionalist perspective focuses on the conditions that enable or hinder transformative change to come about. Thus, it enables me to study what conditions are enhancing or decreasing the transformative potential of landscape-oriented partnerships. In summary, discursive institutionalism can aid in theoretically conceptualizing processes of transformative change and be used to analyze how and under what circumstances transformative changes can occur.

Institutional theory focuses on the interplay between human behavior and institutions and the stability of institutions (Hall and Taylor, 1996). Institutions are characterized by being stable, structural features of society and/or polity that affect individual behavior (Peters, 2019). Discursive institutionalism focuses on the role of discursive action in institutional change (Schmidt, 2010). Discursive institutionalism assumes that institutions constrain the agency of agents by determining the 'ideational rules' or 'rationality of a setting', but agents are also able to reflect on institutions and, via discourses, consolidate or change institutions (Schmidt, 2008a, 2008b). Institutions are simultaneously constraining structures and enabling constructs of meaning that give stability/durability to social life. Meaning is stored in formal and informal rules, roles, codes of conduct, norms, symbols, etc., that are constantly being reenacted, recreated, and maintained by agents (Schmidt, 2008a, 2008b). Hence, discursive institutionalism assumes a dialectical relationship between structure and agency. Discourses are defined in discursive institutionalism as both the representations of ideas and discursive interactions, referring to the context in which these representations are voiced (to whom, where, and when) (ibid.).

According to the theory of discursive institutionalism, fundamental institutional change thus starts with the institutionalization of new or changing discourses, which can contain different 'levels' of ideas (Hall, 1993; Hajer, 2003; Mehta, 2010; Bosomworth, 2018). For example, a discourse can contain ideas about what the policy problem actually is and how it should be addressed, but these ideas are often underpinned by certain values and paradigms (Hall, 1993; Hajer, 2003; Mehta, 2010). These more fundamental ideas within a discourse are not always articulated, are not easily changed, and are rarely contested (Campbell, 2004). When looking at the IPBES definition of transformative change, it are those fundamental ideas consisting of goals, values, and paradigms that must be changed, as they underpin

and thus influence the (other) indirect drivers of biodiversity loss, such as our economic system (IPBES, 2019).

In the IPBES definition, goals, values, and paradigms are put together with economic, technological, and social factors (IPBES, 2019). From a discursive institutionalist perspective, there is an order between these different elements of transformative change, where changes in goals, values, and paradigms can lead to changes in economic, technological, and (other) social factors through the institutionalization of discourses that contain these goals, values, and paradigms. Thus, to realize transformative change, discourses that hold transformative goals, values, and paradigms must become institutionalized.

The institutionalization of discourses occurs through two steps: discourse structuration and institutionalization (Hajer, 2006). Structuration occurs when a discourse starts to determine the way a group, sector, or institution perceives and understands the world. Institutionalization occurs when a discourse culminates in substantively changed or new formal or informal rules, roles, codes of conduct, norms, and symbols (Hajer, 2006; Wiering and Arts, 2006). In reality, institutional change is often not linear, but rather messy and dialectical, as it is complex and influenced by many different factors (Kaufmann and Wiering, 2021).

In a simplified manner, partnerships might thus be able to contribute to transformative change when they contribute to the institutionalization of new discourses on biodiversity or biodiversity governance. Examples of institutional changes concerning biodiversity are the emergence of new legal stipulations dealing with biodiversity conservation or private regulatory schemes for farmers to lower their environmental impact. Institutional changes for biodiversity can also be more elusive, e.g., via changes in the standardized/acceptable ways of agricultural practice or new norms for nature-inclusive behavior. These changes can have material implications for biodiversity, for instance, via population recovery or habitat restoration.

1.2.4. Transformative potential

In this dissertation, I thus aim to unravel the transformative potential of landscape-oriented partnerships. Based on the theories that I have discussed above, I assume that the transformative potential of partnerships depends on several factors. First, they should support intrinsic and/or relational values of nature. Second, partnerships must aim to address the indirect drivers of biodiversity loss, for example, by contributing to value change. These first two factors relate to what

partnerships are trying to change and achieve. Therefore, I look at what values of nature partnerships support, and what drivers they try to address. The third factor relates to how they try to achieve this. To have transformative potential, I assume that they should strive to incorporate the different transformative governance approaches and principles in their work (see Table 1 in section 1.2.2.). These three factors will be reflected in what discourses are articulated by the partnerships, not only on their own work, but also on the landscape. For example, what kind of values are attached to the landscape, and what drivers of biodiversity loss in the landscape are acknowledged?

A recent review of different environmental policy instruments and their contribution to transformative governance showed that there is a relation between the diversity of values that were included in the instrument, and the number of other ‘transformative criteria’ set by the authors, such as addressing indirect drivers, being integrative, and being adaptive (Kelemen *et al.*, 2023). Thus, the different factors determining the transformative potential of partnerships might be related and may influence one another.

Apart from these three factors, I assume that the transformative potential can be enhanced or decreased by discursive and institutional conditions affecting the work of the landscape-oriented partnerships. Therefore, I study these conditions in the different chapters of this thesis.

1.3. Research design

1.3.1. Research questions and objectives

This study aims to unravel the transformative potential of landscape-oriented partnerships. Thereby, this study contributes to the literature on transformative change and governance, to our knowledge of the limitations and transformative potential of landscape-oriented partnerships, and develops practical recommendations for policymakers and conservationists who want to contribute to fundamental changes to bend the curve of biodiversity loss.

For this aim, I developed three research questions that will be answered in the following four chapters:

1. *To what extent and how do landscape-oriented partnerships address indirect drivers and support and implement transformative governance approaches? (chapter 2 and 3)*

2. Which conditions influence the potential for transformative change at a landscape level? (**chapter 2, 4 and 5**)
3. How does the interplay between the agency of landscape-oriented partnerships and the discursive institutional context in which they operate impact their transformative potential? (**chapter 5**)

1.3.2. Methodology

The research questions, as outlined in the previous section, require a combination of width, to be able to draw conclusions on the transformative potential of landscape-oriented partnerships, and depth, to understand why landscape-oriented partnerships do or do not have transformative potential, and how their potential can be enhanced. Therefore, I have chosen different approaches to answer my research questions. For width, I have chosen to use a qualitative scoping review, including descriptive statistics (Colquhoun *et al.*, 2014). For depth, I decided to conduct a predominantly qualitative, embedded case study, in which I also used mixed methods.

Qualitative case study research can provide concrete, in-depth insights in a particular setting (Yin, 2009; Creswell and Poth, 2018), in this case, landscape-oriented partnerships for biodiversity in Dutch landscapes. Through case study research, I can study both the strategies of partnerships and how they influence and are influenced by discursive institutional conditions in the landscapes and sectors they are active in. As a case study design, I have chosen an embedded case study. An embedded case study is used to understand a “*case as a whole in its real-world context*” (p. 2), though as part of the research, the case might be studied from different perspectives, or in different sub-units (Scholz and Tietje, 2002).

Case selection

The embedded case study consists of a national park, which also includes urban and agricultural areas apart from natural areas, and an agricultural landscape within this park. The park is called National Park Hollandse Duinen (in Dutch: Nationaal Park Hollandse Duinen) and is located in the west of the Netherlands (see Figure 4). National Park Hollandse Duinen is a partnership-based national park aiming to connect rural and urban areas with protected areas, to enhance the nature-inclusiveness of these areas, and thereby contribute to nature conservation both in and outside of protected areas. This idea could potentially be transformative if the park manages to influence actors and sectors that are active in and around the park, which makes it an interesting case to study the transformative potential of landscape-oriented partnerships.

In studying the park, I zoom in on one of the landscapes that is part of the park, the Dutch Dune and Bulb Region. Figure 4 shows how the Dutch Dune and Flower Bulb Region is embedded in the National Park. I have chosen to focus on a rural landscape, as agricultural production is one of key drivers of biodiversity loss (Dudley and Alexander, 2017) and there are currently many conflicts in rural landscapes in the Netherlands due to several pressures on these landscapes, such as legal requirements for biodiversity conservation and restoration, the demand for more sustainable agriculture and housing, and the space required for the energy transition (Aarts and Vermunt, 2007; Scholl and Coolen, 2023; Baumgarten *et al.*, 2025). Embedding a rural landscape within a national park might stimulate changes in the agricultural sector if a connection is made between the park and this specific landscape.

In the Dutch Dune and Flower Bulb Region, flower bulb production is the main agricultural sector, which is currently facing different sustainability challenges. In this landscape, several landscape-oriented partnerships aim to deal with these challenges. The Dutch Dune and Flower Bulb Region, together with the partnerships active in this landscape, thus form a sub-case in the study of National Park Hollandse Duinen. By studying the work of partnerships and the developments in the landscape as a whole, I can study the transformative potential of partnerships by looking at their agency and how they are influenced by the conditions within and beyond the landscape they are active in. In the next section (1.3.3.), I provide a more elaborate description of the landscapes and partnerships within the National Park and the Dutch Dune and Flower Bulb Region.

While I have taken into account the history of both the National Park and the Dutch Dune and Flower Bulb Region, the case studies were limited to a specific period. In the case of the National Park, I conducted fieldwork between March 2021 and January 2024, after which I got feedback on the interpretation of the results from park employees and participants in March and June 2024. In the case of the Dutch Dune and Bulb Region, I conducted fieldwork between March 2021 and March 2024. I also analyzed policy documents from 2016 through 2024 and other document types, such as newspaper articles and political motions, were included from 2018 through 2024. Developments in the national park region were followed until April 2025 to ensure to include more recent developments where needed.



Figure 4: A map of the Netherlands, showing the location of National Park Hollandse Duinen, and how this park overlaps with the Dutch Dune and Flower Bulb Region. Map created by Hugo Langezaal.

Choice of methods

As mentioned before, the role of landscape-oriented partnerships in transformative change and governance has not been studied yet. Therefore, I decided to start my research with a scoping review to grasp the width of the phenomenon. A scoping

review is useful in a field that is not well explored yet, and in which the data is not easy to compare (O'Brien *et al.*, 2016; Munn *et al.*, 2018). In **chapter 2**, I conducted a scoping review, in which I qualitatively studied the existing evidence on the potential role of landscape-oriented partnerships in transformative landscape governance by studying 214 cases of landscape-oriented partnerships worldwide.

One of the drawbacks of a literature review is that it does not provide in-depth insights into why landscape-oriented partnerships address certain drivers of biodiversity loss and include certain governance approaches, or not. To get an in-depth understanding of why certain strategies seem 'typical' for landscape-oriented partnerships, and others not, I decided to do a Q-methodology study in National Park Hollandse Duinen in **chapter 3**. By using Q-methodology, I could consistently study the perspectives of the park's partners on the national park, in terms of values, drivers that the park should acknowledge and address, and the governance of the park. Q-methodology is a mixed method in which participants have to sort statements into a grid. How these statements are sorted by participants is analyzed and will result in different 'orderings' of beliefs (Brown, 1993; Watts and Stenner, 2005; Webler, Danielson and Tuler, 2009). After the sorting, participants are interviewed to enable them to explain why they agree, doubt, or disagree with or about certain statements. By choosing this method, I could go beyond their current perspective on the park and present them with potentially alternative, transformative perspectives on values, drivers, and governance. This is important to be able to study the transformative potential of the partnership, instead of the current situation.

The study design of **chapter 4** was based on a first round of interviews and participatory observation of meetings, in which I discovered that in the Bulb Region, the discourse on the landscape itself seemed to play an important role in the developments in the region in general, and the work of partnerships in particular. Therefore, I conducted a discourse analysis (Hajer, 2006) in the Bulb Region to get an in-depth understanding of the role of landscape discourses on transformative change, based on interviews, participant observation, documents, and the organization of informative evenings and a workshop.

For my research, it was important to study whether landscape-oriented partnerships seem to potentially be able to contribute to transformative change (**chapter 2**), why they choose transformative or less transformative strategies (**chapter 3**), and how they may be influenced by landscape discourses (**chapter 4**), but also how their transformative potential is influenced by the interaction between their own strategies and their discursive institutional context. In **chapter**

5, I therefore build upon the work in **chapter 4**, by studying how landscape-oriented partnerships in the Bulb Region aim to enhance their impact and how this is influenced by discursive and institutional conditions in the Bulb Region and beyond. To do so, I have combined interviews, participant observation, document analysis, and a workshop, which I all analyzed qualitatively.

In total, I conducted 92 interviews with 81 participants (30 in-depth, 34 exploratory, and 28 Q-interviews), participated in 45 meetings in which I was a participant observer, and organized 3 workshops by myself and in collaboration with colleagues. The interviewed actors were all directly involved in the studied landscape, professionally or personally, and included policymakers, farmers, farmer representatives, nature conservationists, researchers, active citizens, and local business owners.

Doing research within a living lab

In my research, I make a difference between in-depth and exploratory interviews. This distinction relates to the context in which my research took place: the Living Lab B7 (Living Lab B7, 2024). Living Lab B7 stands for with Boeren (farmers), Bewoners (residents), Bezoekers (visitors), and Beleidsmakers (policymakers) working towards a Better Biodiversity in the Bulb Region. Living Lab B7 is part of the Deltaplan Biodiversiteitsherstel, a national partnership for biodiversity restoration (Deltaplan Biodiversiteitsherstel, 2018), together with two other living labs, one in the Alblasserwaard and the other in the Ooijpolder-Groesbeek.

A living lab is a transdisciplinary research project in which knowledge is produced collaboratively with stakeholders. Living labs are becoming an increasingly popular way to conduct sustainability research, especially in Europe (McPhee *et al.*, 2017; Hossain, Leminen and Westerlund, 2019). The European Network of Living Labs defines living labs as “*open innovation ecosystems in real-life environments based on a systematic user co-creation approach that integrates research and innovation activities in communities and/or multi-stakeholder environments, placing citizens and/or end-users at the centre of the innovation process.*” (ENoLL, 2025). Key characteristics of living labs are, among other things, geographical embeddedness, real-life environments, experimentation, learning, public involvement, and adaptiveness (Leminen and Westerlund, 2016; Voytenko *et al.*, 2016). Though the focus on innovation might seem very technologically oriented, living labs are often used to deal with sustainability changes in rural landscapes, in which technology is not always the main way forward (Gamache *et al.*, 2020; Toffolini *et al.*, 2021). The transdisciplinary nature of a living lab creates the possibility for researchers to actively contribute to transformative change for biodiversity together with societal

actors (van Dijk *et al.*, 2023), for example, by working on the transition to more sustainable agriculture or a transformation to completely different agricultural systems (Marselis *et al.*, 2024).

Our Living Lab consists of three work packages. One that focuses on agricultural practices and farm economics, one that focuses on ecology, and one that focuses on partnerships and policy. This dissertation is the main outcome of the third work package. However, throughout the process, I worked closely with researchers from the other work packages, for example by organizing workshops together, visiting stakeholders together, and discussing our results and strategies together.

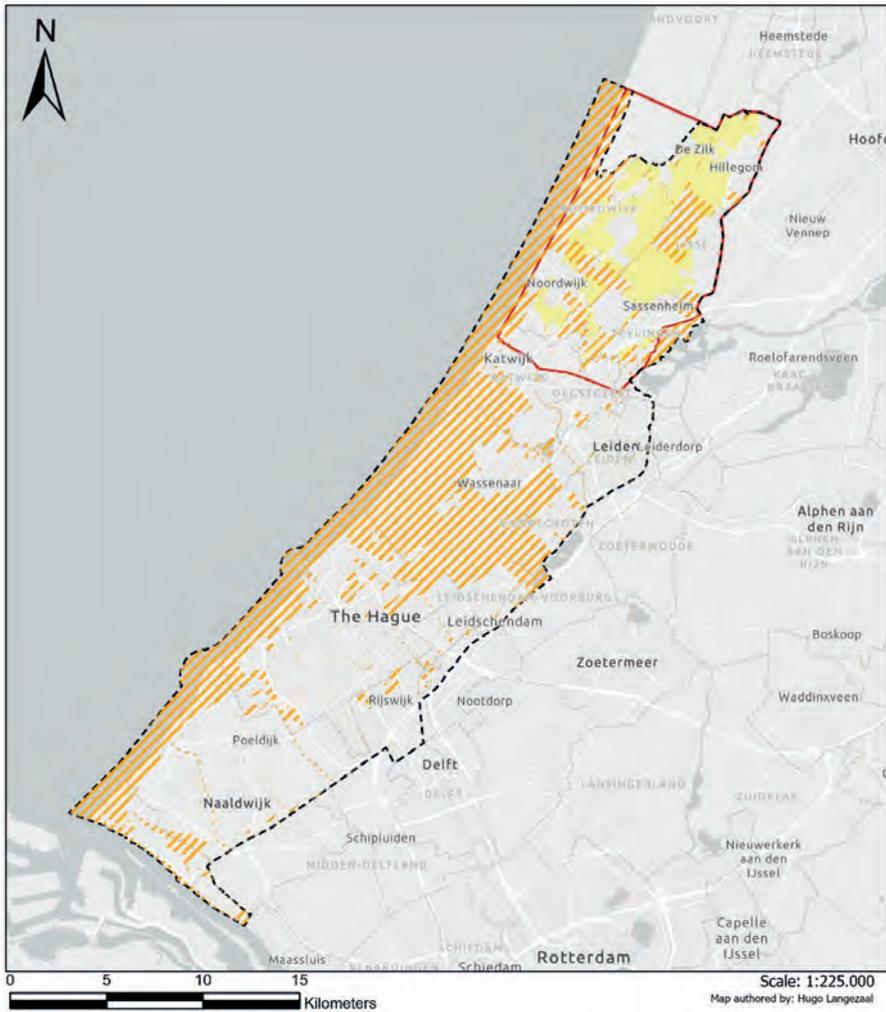
To avoid stakeholder fatigue, we sometimes combined my interviews with stakeholder meetings that were not strictly research-oriented but were, for example, part of building rapport with stakeholders or exploring potential collaborations. These interviews were thus less structured and not always recorded. Therefore, I called these interviews ‘exploratory’, as they often took place at the beginning of my research, or the beginning of the research for a specific empirical chapter, in which I first needed to explore the different stakeholders and issues at play. These interviews were similar to what some call conversational interviews, or ‘conversations with a motive’ (Swain and Spire, 2020; van Eck, 2024). According to Swain and King (2022) the advantage of doing exploratory interviews is that you come nearer to “*the reality of individual’s experiences, values, and perceptions*”, due to a more natural setting in which there is “*often less performativity*” (p. 8). I also experienced that these exploratory interviews seemed to provide insights that the in-depth interviews could not provide, for example, on relationships between different stakeholders, which respondents in a formal setting might feel less comfortable talking about.

Doing research within a living lab that aims to contribute to a specific societal goal influences the positionality of the researcher. In this case, the living lab was part of the Dutch National Science Agenda (in Dutch: Nationale Wetenschapsagenda (NWA)). Based on public consultation, this agenda contains an overview of research questions that were deemed relevant to Dutch society. How to restore biodiversity in rural areas was one of these questions and the leading question of this living lab. Thus, the focus of this research was biodiversity conservation and restoration. However, within the living lab, there were different positions on whether we should take the current land use and spatial planning of the landscape as a starting point to start thinking about biodiversity restoration, or to also question the current land use and spatial planning. In this thesis, I have chosen the latter approach. My position was based on the idea of transformative change, which requires rethinking

the status quo instead of taking the status quo as a starting point. This also enabled a conversation with actors on the factors that enabled or constrained them, even if they were seen as outside of the circle of influence of these actors. That said, I want to emphasize that I am aware and recognize that people in rural landscapes face several challenges next to biodiversity loss, and that concerns about these other challenges may drive the resistance towards transformative change for biodiversity. However, I wish for this thesis to shed light on how we may still achieve transformative change for biodiversity, especially in contexts in which this might be difficult, or even undesired by some, such as in rural landscapes.

1.3.3. National Park Hollandse Duinen and the Bulb Region

As mentioned in the previous section, this research is based on a combination of a literature review that includes cases of landscape-oriented partnerships throughout the world and empirical studies in the Netherlands. The empirical studies are based on an embedded case study of National Park Hollandse Duinen in the Province of Zuid-Holland, and a rural landscape within this park, the Dutch Dune and Flower Bulb Region (see Figure 5). In total, the study focuses on four different landscape-oriented partnerships within this case study area that may contribute to transformative landscape governance for biodiversity.



Legend

- | | |
|--|---|
|  National Park Hollandse Duinen: Collaboration area |  National Park Hollandse Duinen: Official national park area |
|  Flower Bulb Region |  Flower bulb cultivation |

Figure 5: A map of National Park Hollandse Duinen and the Dutch Dune and Flower Bulb Region. As the map shows, the Dutch Dune and Flower Bulb Region lies within the collaboration area and contains part of the official national park area. Map created by Hugo Langezaal.

National Park Hollandse Duinen

In the coastal strip of the Province of Zuid-Holland, a new landscape-oriented partnership is in the making, which is called National Park Hollandse Duinen

(Nationaal Park Hollandse Duinen). In contrast to existing parks in the Netherlands, the core of this park is the partnership itself, rather than a delineated area of protected nature. The founders of the park, therefore, call this a national park 3.0. A national park 3.0 does not only focus on the geological features or biological diversity of a landscape, but also on the reciprocal relationship between humans and nature (Kuiper *et al.*, 2022; Leltz *et al.*, 2022). The idea is that this can lead to nature-inclusive urban and rural areas, and human-inclusive natural areas, which can both contribute to the restoration and conservation of biodiversity, for example by creating new or better habitats outside of natural areas and by enhancing people's connection with nature.

Hollandse Duinen means Dutch Dunes, and this park is also centered around the dune areas (see Figure 6), including the urban and rural areas that are adjacent to the dunes (NPHD, 2020). Interestingly, this area is one of the most densely populated and economically important regions of the Netherlands, thus not the most usual suspect to become (part of) a national park. The original national park delineation also included the city of The Hague, in which the Dutch parliament resides and which is thus the political heart of the Netherlands. The National Park contains several Natura 2000 areas. Examples of important habitats in the park are the grey, white, and wooded dunes. Examples of protected species include the pond bat (*Myotis dasycneme*), sand lizard (*Lacerta agilis*), and meadow pipit (*Anthus pratensis*) (Provincie Zuid-Holland, 2017). Species that are most commonly associated with the area, and that are used in the promotion of the park, are the red fox (*Vulpes vulpes*) and the European rabbit (*Oryctolagus cuniculus*) (see Figure 7). The latter plays an important role in maintaining the dunes but has been decimated due to outbreaks of diseases such as myxomatosis.

The original idea of this partnership was to connect natural areas with adjacent urban and agricultural areas by creating a partnership-based national park. Thus, instead of only containing protected areas, the park would also contain non-protected areas, thereby stimulating stakeholders such as local governments and businesses to work on nature-inclusiveness outside of natural areas (NPHD, 2020). I have chosen this park as a case study as it is a prime example of a landscape-oriented partnership, even one that might potentially be transformative, as its core idea is that to protect nature, we should involve other stakeholders, sectors, and areas. This case is used to explore to what extent and how partners see the park as a vehicle to realize transformative change, and whether they support transformative governance principles. From a landscape governance perspective, the National Park is also an interesting case, as it is a partnership that tries to develop a new perspective on what the dune landscape is, and where its

boundaries should be drawn. Namely, including the areas adjacent to the dunes. Thus, the National Park is a partnership and a landscape (defined by the partnership) at the same time.

Though the idea behind the park may be potentially transformative, it is not yet recognized by the Dutch government as an official national park. When applying for the official status of national park at the Dutch Ministry for Agriculture, Nature and Food Quality (LNV²) the application was rejected because the designated national park area did not contain enough protected areas to qualify as a national park. Additionally, the advisory committee perceived a lack of cohesiveness between the different types of areas included in the National Park (Adviescommissie Nationale Parken, 2021; van Engeldorp Gastelaars, 2024). Including urban and agricultural areas would involve “*serious commitments with regard to increasing the sustainability, naturalness and the direct and indirect influence of the non-natural areas to the protected areas*”, which the committee perceived as non-feasible (p. 4, Adviescommissie Nationale Parken, 2021). From a transformative change perspective, this response by the government, which is based on the current ‘requirements’ for a national park, shows that the currently institutionalized discourses on what a national park is and what nature is, might hinder the transformative ideals of National Park Hollandse Duinen.

2. Between 1989 and 2010 and 2017 and 2024, the Dutch ministry for agriculture, nature, fisheries, and food quality was consistently referred to with the abbreviation LNV, though the name itself changed. Currently, the abbreviation LNVN is used. In this thesis, I use LNV to refer to this ministry, as most documents and policies used and discussed in this thesis are from the LNV period.



Figure 6: *A picture of a dune area in National Park Hollandse Duinen, taken by the author.*

As a response to this decision, the partners started a new application, in which a difference was made between the ‘official national park area’, which only includes areas that fall under a form of environmental protection (e.g. Natura 200 or the Water Framework Directive), and the ‘collaboration area’, which includes the park area of the original application. In Figure 5, the new official national park area and

the collaboration area are depicted. The rationale behind this was that this still enabled the park to engage stakeholders who are not directly involved in protected area management or do not operate within the national park area. Thereby, they can still work on creating more nature-inclusive urban and rural areas adjacent to the nature areas. In the new plan, which at the time of writing was still awaiting approval by the Ministry, the official park area encompasses 183 km², whereas the collaboration area encompasses 450 km². The collaboration area is densely populated, with 1,2 million inhabitants. In total, the park has 62 partner organizations, of which 11 are cofinancing the work of the park (van Engeldorp Gastelaars, 2024).



Figure 7: Picture of a rabbit in a campaign of National Park Hollandse Duinen, the text states: “Please help the rabbit, stay on the designated paths and keep your dog on the leash”.

The Dutch Dune and Bulb Region

In the case of the National Park, I study one partnership in one area that they define and want to promote as a coherent landscape. However, within the national park borders, several areas are regarded as a landscape in itself, including the rural landscape of the Dutch Dune and Bulb Region (in Dutch: de Duin- en Bollenstreek) (see Figure 8). Though in this thesis I refer to this region as a rural landscape, from an international perspective, it could be seen as a peri-urban landscape. Compared to rural landscapes worldwide, most rural landscapes in the Netherlands could be seen as peri-urban landscapes, as they are generally quite densely populated and close to, for Dutch norms, ‘big cities’.

The Dune and Flower Bulb Region is a region that encompasses dunes, towns, and agricultural areas, most dominantly flower bulb fields (see Figure 8 and Figure 9). It is most famous for the colorful tulip fields in spring, which attract many tourists but is also – to a certain extent – an important economic sector on its own. In 2022, Dutch bulb farmers exported 7 billion flower bulbs, with a total worth of 1 billion euros (0,003% of total export) (CBS, 2023, 2024). The famous flower bulb show garden ‘De Keukenhof’, which is also located in the Dutch Dune and Flower Bulb Region, received 1,4 million visitors during the spring of 2024 (BioJournaal, 2024). In the Netherlands, there are also other landscapes in which bulbs are being produced, such as in the province of Noord-Holland, Flevoland, and Drenthe, but the first bulb farming took place in the Dune and Flower Bulb Region, and thus it is still regarded as ‘the Bulb Region’.

The bulb fields speak to people’s imagination. Many people all over the world associate the Netherlands with bulb fields, and also in the Netherlands itself, the bulb fields are often regarded as an important element of Dutch cultural heritage. Moreover, it is a popular place to live, as it is close to large cities such as Leiden and Amsterdam, and is close to the coast. However, this demand leads to a fear of a decrease of the openness of the landscape, something which is highly valued by local people. Another challenge that the landscape faces is the pesticide use in bulb farming, which I explain more elaborately later in this section.

In the landscape itself, the term ‘Bulb Region’ is commonly used, and in this thesis, I also use this term, though I acknowledge that the use of this term creates a focus on the agricultural areas within the landscape. The Bulb Region provides an interesting case to study transformative change, and in particular, the role of landscape-oriented partnerships in transformative change, on a landscape level. It is a landscape that is, on the one hand, beloved and seen as important, both in cultural and economic terms, but on the other hand, faces tremendous

sustainability challenges. Due to its non-food status, the interest in its sustainability seems to lag behind in comparison to other agricultural sectors. Additionally, the fact that most of the bulbs are exported prevents farmers from developing more locally, alternative agricultural models, such as (local) food cooperatives and community-supported agriculture. Thus, it is a landscape in which, at the start of this research, there were no signs of transformative change. Instead of providing a ‘best-practice’ example, this landscape can provide an example of the opportunities and limits for landscape-oriented partnerships to bring about transformative change in a landscape that does not seem to be susceptible to transformative changes (yet).



Figure 8: A typical image of the Bulb Region, taken by the author.

The Bulb Region is thus a landscape that is valued for several reasons, but also faces several, sometimes intertwined, challenges in terms of sustainability and spatial planning. To produce flower bulbs, bulb growers use high amounts of pesticides, which is allowed because flower bulbs are non-food products (Tiktak *et al.*, 2019; Pereira *et al.*, 2021). The average pesticide use in Dutch bulb farming is 78 kg per hectare per year (Agrimatie, 2022a), while the average pesticide use in other types of arable farming in the Netherlands is 7 kg per hectare per year (Agrimatie, 2024). Another environmental issue is the emission of phosphate to surface water.

The sandy soils of the Bulb Region are naturally low in organic matter and phosphate that is applied to the bulb field, for example, via compost or fertilizers, easily leaks to the surrounding ditches (Ten Berge *et al.*, 2007; Hoogheemraadschap van Rijnland, 2015).

Due to high pesticide use and phosphate emissions, the Bulb Region struggles to adhere to European Union (EU) and national environmental legislation. To date, only a minority of bulb growers in the area are involved in sustainability certification, and none are certified according to the standard for organic agriculture. Farmers perceive organic bulb production as economically unfeasible due to the phytosanitary requirements of importing countries and the vulnerability to pests of the species and varieties of bulbs that are produced and demanded by the market (Snoek *et al.*, 2002; Raaijmakers, 2016; de **chapter 4**, de Koning, 2024). The phytosanitary requirements, which, for example, contain a so-called ‘zero-tolerance’ for certain pests, can differ per country to which the bulbs are exported (KAVB, 2025).

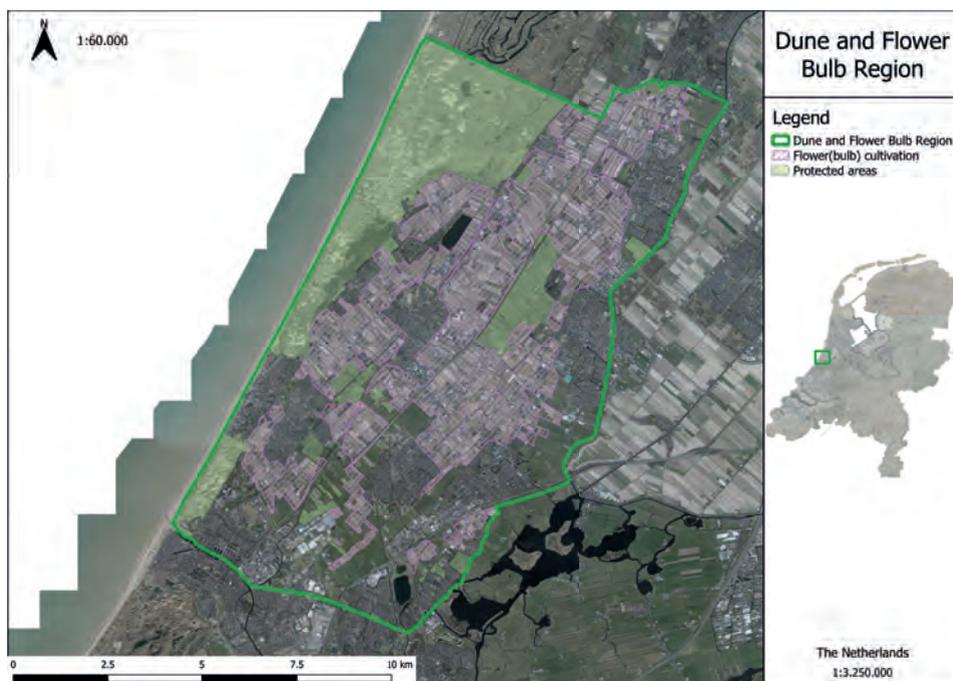


Figure 9: A map of the Dutch Dune and Flower Bulb Region, created by Hugo Langezaal.

Thus, pesticide use is an important sustainability challenge in the Bulb Region and has a potentially high impact on the biodiversity in the area. Though there has not been specific research in the Bulb Region, research has shown that pesticides not

only affect target organisms but also non-target organisms, such as insecticides that can harm amphibians. Pesticides can harm species in different ways, for example by limiting growth and reproduction, but also by influencing the behavior of species (Wan *et al.*, 2025). Especially birds seem to be impacted by pesticide use, though this might also be explained by the large number of studies on the impact on birds (Rigal *et al.*, 2023; Fritsch *et al.*, 2025).

Despite the lack of biodiversity research in the Bulb Region, we do know that certain bird species are doing relatively well in the Bulb Region compared to other landscapes in the Netherlands (Kwak and Kooijmans, 2021). These bird species have therefore been coined the ‘bulb birds’ (Duineveld and van Assche, 2011). The ‘bulb birds’ species are the grey partridge (patrijs, *Perdix perdix*), the yellow wagtail (gele kwikstaart, *Motacilla flava*), the Eurasian skylark (veldleeuwerik, *Alauda arvensis*), the northern lapwing (kievit, *Vanellus vanellus*) and the Eurasian oystercatcher (scholekster, *Haematopus ostralegus*) (see Figure 10). One of the theories of why they are doing ‘well’ in the Bulb Region is that bulb production entails relatively little activity on the fields during breeding season, as the bulbs are harvested in late spring and summer. Another potential beneficial characteristic of the Bulb Region for farmland birds may be its mosaic structure, in which dairy farms may provide foraging habitat, and the bulb fields provide a safe breeding habitat. However, both theories are still under research in our Living Lab.

Another challenge for biodiversity is the spatial planning of the area, which is based on a history of resistance against urbanization, protecting the bulb industry and the value of bulb fields for bird species (van Ark, 2005; Duineveld and Beunen, 2010; Duineveld and van Assche, 2011). The spatial planning of the Bulb Region is based on an agreement about maintaining the amount of ‘first-class quality’ bulb fields at 2625 hectares (Greenport Duin- en Bollenstreek, 2016). This agreement aims to maintain a viable bulb production sector in the Bulb Region and to prevent urbanization. In the 90s, there were serious plans to build a ‘bulb city’ in the Bulb Region, something which was met with a lot of resistance, from both farmers and conservationists, and led to the collaboration between farmers and conservationists to protect both bulb farming and bulb birds. This proposed solution of legally protecting the bulb fields became institutionalized in the new spatial policies in 2010. However, part of this policy is also to prevent ‘cluttering’ in the open landscape because of too many scattered buildings by removing such buildings, a process which is financed by building expensive houses in other parts of the landscape. This arrangement was and is still questioned by many people, including bulb farmers and inhabitants in the landscape, as they perceive these houses as ‘elitist’ and just another form of landscape ‘cluttering’. By protecting the bulb fields, these plans also leave little room for biodiversity restoration or the

production of other agricultural products, such as organically grown vegetables, as other forms of land use are not allowed on the ‘first-class quality’ bulb fields.

Bollenvogels

Kievit

Gele kwikstaart

Veldleeuwerik

HELP de bollenvogels!

Wat kunt u doen:

Wintervoedsel

- ▶ Inzaaien (najaar) strook op kopeind of leeg land met wintergraan en/of bladrammenas

Zomervoedsel

- ▶ Inzaaien (voorjaar) strook op kopeind of leeg land met zaadmengsel voor bollenvogels
- ▶ Natuurvriendelijk slootkantenbeheer: minder maaien en maaisel afvoeren

Dekking

- ▶ Aanplant streekeigen hagen in zanderijlandschap

Patrijs

Scholekster

OPMERKING Deze poster is gemaakt in opdracht van de Werkgroep Bollenvogels, bestaande uit: Veelzijdig Boerenland, Vogelbescherming Nederland, ANLV Geestgrond, Vogelwerkgroep Tringa, Vereniging voor Natuur- en Vogelbescherming Noordwijk en Reijers Landschapsadvies. Deze poster is financieel mogelijk gemaakt door Vogelbescherming Nederland, middels de prijsvraag 'Hoop voor Boerenlandvogels'. Deze poster is vorm gegeven door René van Rossum naar een idee van Landschapsbeheer Zuid-Holland en de Werkgroep Bollenvogels, onder regie van Reijers Landschapsadvies. De foto's op de poster zijn gemaakt door: René van Rossum (Scholekster, Patrijs), Jan Hendriks (Kievit), Richant Burgmeijer (Gele kwikstaart), Martin van Lokven (Veldleeuwerik) en Joost Bouwmeester (Bloembollenveld). Wilkt u meer informatie over Bollenvogels dan kunt u contact opnemen met Dave Dirks, Veelzijdig Boerenland, Tel: 033 5343155.

Figure 10: Poster to promote the protection of the bulb birds in the Bulb Region (ANLV Geestgrond, 2025).

Within the Dutch Dune and Bulb Region, several partnerships are working directly or indirectly on biodiversity. I have chosen to see both the developments in the

landscape as a whole as one of my cases, as well as the specific partnerships active in this landscape. This enabled me to study the interplay between the agency of partnerships and the discursive institutional context in which they operate. In Figure 11, I show the different, hypothetical pathways to bend the curve of biodiversity loss in the Bulb Region to illustrate in what kind of ways landscape-oriented partnerships may contribute to biodiversity restoration. The orange line depicts the pathway in which there is an increase and improvement of the biodiversity measures taken. In this study, I include one partnership that potentially works on this pathway: the partridge project. The green line depicts the pathway through which the farming system and other types of land uses are transformed. In this study, I include two partnerships that work on this pathway: the regional certification scheme and the demonstration field. In **chapter 5**, these partnerships are introduced more elaborately. Together, these partnerships could contribute to bending the curve of biodiversity loss and be potentially transformative.

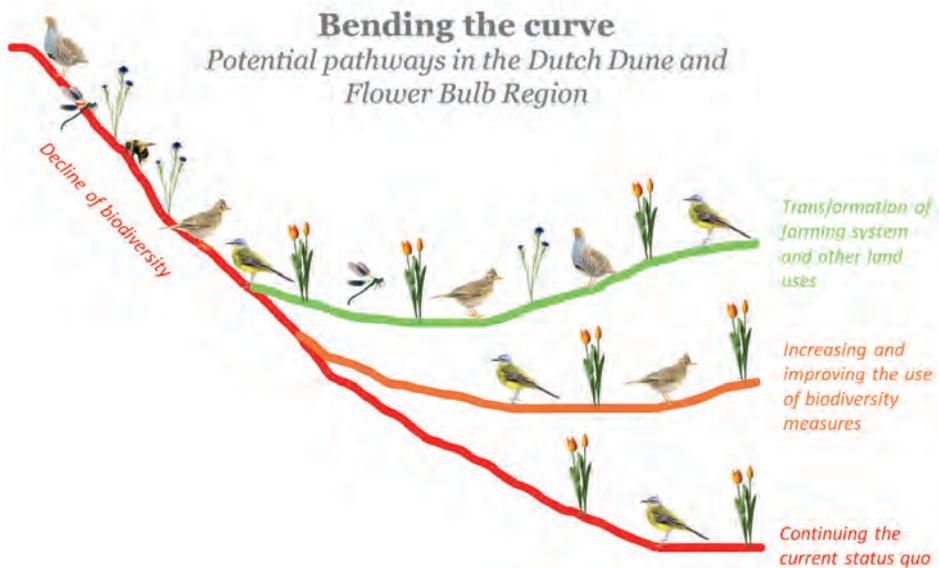


Figure 11: *Bending the curve of biodiversity loss in the Dutch Dune and Flower Bulb Region. Designed by the author, bird illustrations by Elwin van der Kolk.*

1.3.4. Outline of this thesis

This thesis consists of four empirical chapters, divided into two parts (see Figure 12). After the empirical chapters, the overarching insights of this thesis will be discussed in the conclusion and reflections chapter. The division into two parts

is based on the two theoretical perspectives I use in this thesis: 1) transformative governance, which focuses on the agency of actors and organizations to bring about transformative change, and 2) discursive institutionalism, which elicits the processes of and conditions that enable transformative change or stabilize the status quo.

Part 1 Transformative governance

In the first part, I thus focus on to what extent and how landscape-oriented partnerships can contribute to transformative change. I start with a scoping review in **chapter 2**, in which I use the transformative governance framework to evaluate the contribution of landscape-oriented partnerships worldwide to transformative change.

A limitation of a scoping review is that literature on landscape-oriented partnerships can provide insight into what they do, but not always into why they make certain choices and choose certain strategies. For example, why do they align with certain transformative governance approaches and principles, and not with others? To explore this question in an in-depth manner, I, therefore used Q-methodology in **chapter 3** to study the discourses of partner organizations on Nationaal Park Hollandse Duinen, in which I asked participants to rank statements based on the local context and the transformative governance approaches.

Part 2 Conditions for change

In the second part of this thesis, I study the conditions for transformative change in one landscape, the Bulb Region, and the impact of these conditions on the work of partnerships. In **chapter 4**, I study the role of landscape discourses in inhibiting transformative change. This study developed out of an exploratory phase in my research, in which, through exploratory interviews, participant observation, and document analysis, I started to notice the important role of landscape discourses in this landscape.

In **chapter 5**, I study three partnerships in the Bulb Region that potentially work on different pathways for bending the curve of biodiversity loss. Here, I focus on how their transformative potential can be enhanced and/or decreased through different amplification processes.

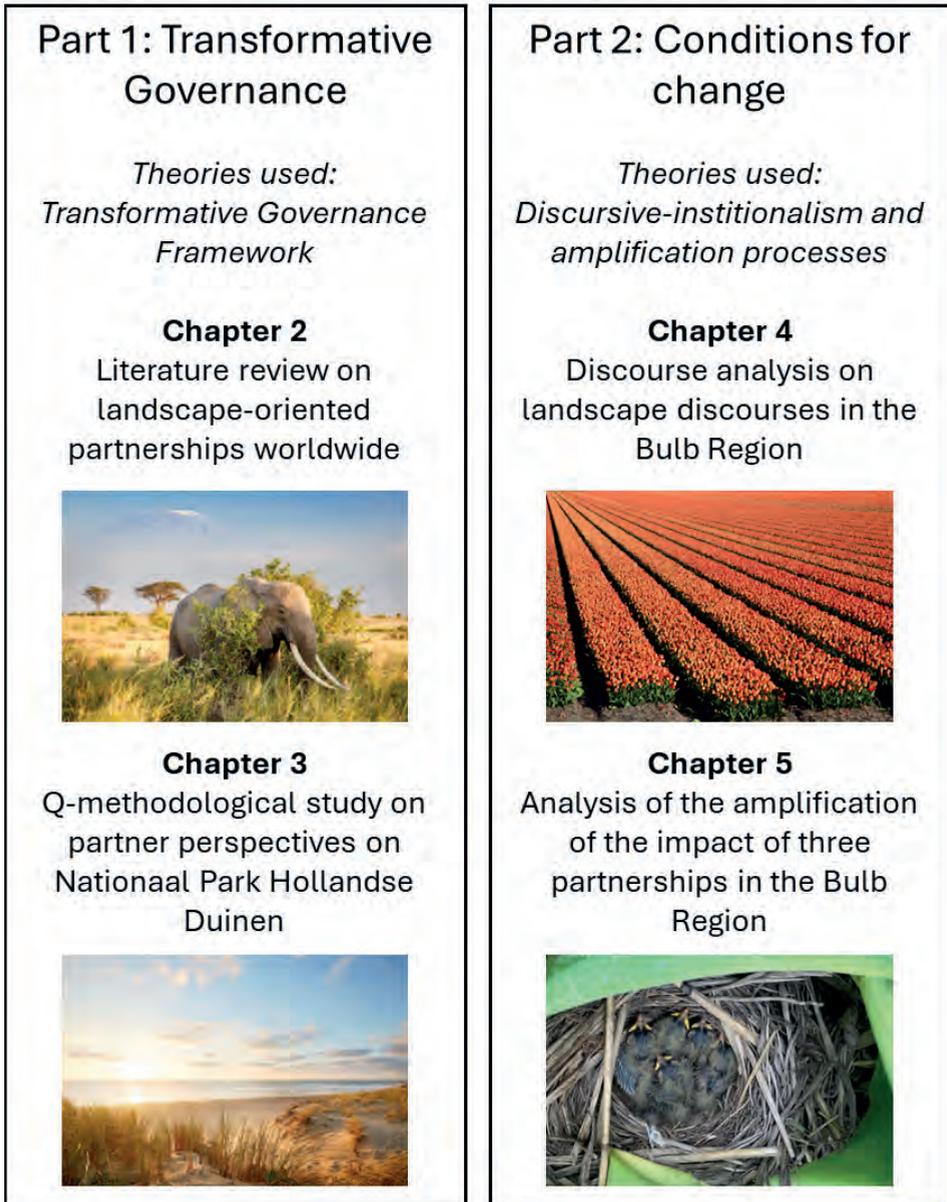


Figure 12: Overview of the different chapters of this dissertation, pictures from Microsoft 365 and by Cassandra van Altena (nest with yellow wagtail chicks).

Part 1

Transformative governance



2 Transformative change for biodiversity

A review on the contribution of landscape-oriented partnerships

Abstract

Transformative change is considered a necessity to halt biodiversity loss, as it addresses its direct and indirect drivers. Scientists, conservationists, and policymakers expect that landscape-oriented partnerships are able to contribute to transformative change, assuming that landscapes provide a suitable scale for stakeholders to work in a collaborative, integrative, and tailored fashion within specific social and natural conditions. Nevertheless, empirical research assessing the role of landscape-oriented partnerships in transformative change for biodiversity is scarce. This scoping review assesses the contribution of 214 landscape-oriented partnerships to transformative change using two criteria. First, whether the activities of partnerships target the indirect drivers of biodiversity loss, and second, whether they contribute to transformative governance, which consists of integrative, inclusive, adaptive, transdisciplinary, and anticipatory approaches.

Our analysis shows that half of the studied landscape-oriented partnerships focus solely on the direct drivers of biodiversity loss, while the other half also focus on indirect drivers. Several indirect drivers are targeted, e.g., unsustainable farming or fishing practices, attitudes, governance structures and policies, and regulations. Regarding transformative governance, partnerships generally use integrative and inclusive approaches, but less often use adaptive, transdisciplinary, or anticipatory approaches. Some promising examples show that landscape-oriented partnerships can contribute to changes in important indirect drivers, such as policies and regulations, by applying a combination of integrative, inclusive, adaptive, and transdisciplinary governance approaches. Landscape-oriented partnerships are not a silver bullet to enable transformative change and halt biodiversity loss, but landscape-oriented partnerships can contribute, under certain conditions, as a complementary arrangement in transformative biodiversity governance.

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2.1. Introduction

Biodiversity is an essential part of a healthy planet for humans, non-human animals, and plants (Chivian and Bernstein, 2008). Notwithstanding some local

conservation successes, global biodiversity is declining rapidly (Mace *et al.*, 2018). This triggers scientists to hail the Anthropocene as the epoch of the ‘sixth extinction wave’ (Dirzo *et al.*, 2014). Solely improving conservation measures is insufficient (Leclère *et al.*, 2020). Rather, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) is calling for transformative change, defined as “*A fundamental, system-wide reorganization across technological, economic and social factors, including paradigms, goals, and values*” (IPBES, 2019). Transformative change can be achieved by focusing on the indirect drivers of biodiversity loss (Osborne *et al.*, 2021; Pascual *et al.*, 2022), such as unsustainable food production systems, consumption patterns, technologies, laws and policies, and norms and values (Díaz *et al.*, 2019; Leclère *et al.*, 2020). Despite the urgency of bringing about transformative change (UN, 2015; IPBES, 2019), our understanding of effective governance arrangements delivering transformative change remains limited.

Landscape-oriented conservation is increasingly seen as a promising way to foster transformative change (Meijer *et al.*, 2021; Nishi *et al.*, 2021). Conservation practitioners have started to focus on landscapes, exemplified in statements such as “*Promoting landscape level approaches to turn the tide on biodiversity loss, climate change and social inequity*” (WWF, 2022). Landscapes are physical entities shaped through the biophysical processes of animals, plants, and specific abiotic conditions. At the same time, landscapes are social constructs, in the sense of how we define certain landscapes, the (cultural) meaning we attach to them as well as the physical interventions of humans to model them accordingly (Görg, 2007). By focusing on landscapes, conservation has to consider the different functions of a landscape, the different stakeholders and their perceptions. Moreover, in a landscape, global and local developments intersect. Therefore, Meijer *et al.* (2021) argue that landscapes might be a suitable scale at which to bring about transformative change for biodiversity, in combination with partnerships as particularly effective governance arrangements.

Partnerships are specific and inherently multistakeholder arrangements of collaborative governance (Ansell and Gash, 2008), which can co-govern (with government) but also self-govern (without government) (Arnouts, van der Zouwen and Arts, 2012). According to some authors, partnerships have the potential to be more effective than individual actors (such as governments or companies), by bringing together complementary resources and capacities of the different actors (Bryson, Crosby and Stone, 2006; Van Huijstee, Francken and Leroy, 2007; Bitzer and Glasbergen, 2015). Moreover, partnerships often function as networks instead

of hierarchies, which enhances their flexibility (Powell, 1990; Agranoff and McGuire, 2001; Klijn and Koppenjan, 2016).

One can now observe partnerships that specifically focus on landscapes. In contrast to value-chain partnerships or international partnerships, landscape-oriented partnerships are expected to be able to address the multifunctionality and cross-sectoral challenges in landscapes. In their structure, they resemble so-called polycentric governance systems, which are also aimed at “*adaptive, locally oriented solutions*” (Nagendra and Ostrom, 2012). However, polycentric governance systems involve actors at different levels (Kelly, Charnley and Pixley, 2019), which is not the case for all landscape-oriented partnerships. Moreover, the polycentric literature focuses on governmental actors with overlapping jurisdictions (Stephan, Marshall and McGinnis, 2019), while some landscape-oriented partnerships work independently from the government. Another resembling governance concept is the landscape approach. Definitions differ (Arts *et al.*, 2017), but it is generally defined as a framework for reconciling development and conservation through adaptive and integrated management (Reed, Deakin and Sunderland, 2015; Reed *et al.*, 2017).

The general expectations of sustainability partnerships are high. For example, the 17th Sustainable Development Goal calls for the establishment of partnerships in order to reach the other 16 goals (UN, 2015). However, some scientists take a critical stance towards partnerships, assuming that partnerships can undermine the role of government in governance and contribute to ‘hollowing out the state’ (McGuire and Agranoff, 2011; Visseren-Hamakers, Leroy and Glasbergen, 2012). Another issue is that since partnerships are often focused on achieving shared goals, space for fundamental discussions or public objectives different from the goals may be limited (Visseren-Hamakers, 2013). This can result in partnerships either inhibiting change or contributing to incremental change, instead of pursuing transformative change. Studying the ecological effectiveness of partnerships and other types of collaborative governance is challenging, and the evidence for such effectiveness is limited in most cases (Alexander, Andrachuk and Armitage, 2016; Bixler *et al.*, 2016; Pattberg and Widerberg, 2016).

Despite the high expectations in the conservation community, thus far no research has been conducted on the role of landscape-oriented partnerships in transformative change (Mugo, 2021; Nishi *et al.*, 2021). This study explores how and to what extent landscape-oriented partnerships contribute to transformative change for biodiversity. We have reviewed scientific case studies based on two criteria: to what extent do they address indirect drivers, and if so, whether they do

so via transformative governance, using the framework developed by Visseren-Hamakers and Kok (2022). This enables a critical interrogation of the concept of landscape-oriented partnerships to assess whether the high expectations are justified.

This paper proceeds as follows. In the theoretical framework, we explain the concepts informing our analysis. In the methods section, we explain how we selected the included literature and how we operationalized the theoretical framework. In the results, we assess the contribution of the studied partnerships to transformative change and discuss the conditions that may influence their contribution. In the discussion, we discuss the theoretical implications of our study and finish with recommendations for conservation practice and science.

2.2. Theoretical framework

2.2.1. Landscape-oriented partnerships

To study landscape-oriented partnerships for biodiversity in the literature, we define landscape-oriented partnerships as follows (based on Glasbergen, 2007; Görg, 2007; McNamara, 2012; Mugo, 2021). First, partnerships are always voluntary, meaning that partners deliberately choose to be part of the partnership. Second, partners need to actively collaborate, i.e., play a role in the activities, and cannot solely endorse the aims of the partnership. The third feature is more object-specific: the partnership must be explicitly focused on a specific landscape, seascape, or riverscape (hereafter all called landscapes), which we conceive as socio-physical hybrids and can include one or several closely interlinked ecosystems. These landscapes can exist within a nation state, but also within several nation states. Partnerships with a global, national, or sectoral focus (such as certification schemes) are excluded, just as partnerships that focus on extremely local cases (such as biodiversity measures on the land of one farmer). Hence, we define landscape-oriented partnerships for biodiversity as *voluntary arrangements in which combinations of state, market and/or civil society actors collaborate to contribute to biodiversity restoration or conservation in a specific landscape.*

2.2.2. Transformative change

In this paper, we are interested in the contribution of landscape-oriented partnerships to transformative change for biodiversity. We therefore need to assess what 'kind' of change they try to accomplish, and how. Transformative change for

biodiversity refers to changing generic societal causes of biodiversity loss, as well as changing causes of biodiversity loss related to specific regimes. Thereby, the concept builds upon both transition and transformation literature (Visseren-Hamakers *et al.*, 2022). In general, authors refer to fundamental, structural, and qualitative changes when referring to either transitions or transformations, but conceptualizations differ depending on the type of research, the object of change, and the scale at which such changes take place (Feola, 2015). Problem-based research conceptualizes transformative change as something that can be steered and is only transformative if it has a certain outcome, while descriptive-analytical research conceptualizes transformative change as something emergent without a clear outcome or endpoint. Regarding the object and scale of change, many authors look at systems. Systems are often loosely defined and can refer to ecosystems, social-ecological systems, sectors (e.g., agricultural sector), or societies, among others (Feola, 2015). Other scholars specifically look at societies, which can range from “local” societies to the global society (Feola, 2015; Visseren-Hamakers and Kok, 2022).

Following the IPBES definition and adopting a problem-based research approach, we assume that transformative change can be steered (to a certain extent), and we label it as transformative if the indirect drivers of biodiversity loss have changed to the benefit of biodiversity. This focus on indirect drivers is in line with the ecological (Leclère *et al.*, 2020; Tickner *et al.*, 2020) and governance-oriented conservation literature on transformative change (Weatherley-Singh and Gupta, 2015; Mupepele *et al.*, 2021; Visseren-Hamakers *et al.*, 2021; Coffey *et al.*, 2022; Pascual *et al.*, 2022). Moreover, we assume that transformative change can happen on different levels and different scales, ranging from changes in practices to complete system changes, and from changes in communities to changes in national and global politics and populations.

We assess the contribution of landscape-oriented partnerships to transformative change for biodiversity by deducting whether their activities contribute to addressing the indirect drivers of biodiversity loss. We expected that these activities would be part of broader strategies, consisting of a certain end (aim) with the proposed means (activities) to realize it (Klijn and Koppenjan, 2016) and based on a theory of change (Durant *et al.*, 2022).

2.2.3. Transformative governance

In addition to assessing whether landscape-oriented partnerships address indirect drivers, we assessed whether they do this via transformative governance. As

mentioned in the previous paragraph, we assume that transformative change can be steered and governed deliberately, although there is still much debate on how this can be done (Visseren-Hamakers *et al.*, 2021). Nonetheless, there have already been efforts to define and study transformative governance. To conceptualize transformative governance, Chaffin *et al.* (2016) connect the bodies of literature on adaptive governance, socio-technical transitions, reflexive governance, and transition management. According to Chaffin *et al.*, transformative governance is needed when socio-ecological systems are in an undesired state, while adaptive governance can serve to maintain the current (desirable) state. Whether a state is desirable or not is always a social and political choice, making transformative governance an inherently normative and political venture. Moreover, transformative change generally involves changes in power relations. In the case of partnerships, this is relevant, as partners are often ‘usual suspects’ (Sherlock, Kirk and Reeves, 2004), which may potentially reinforce the status quo. To develop transformative governance, Chaffin *et al.* highlight the importance of polycentric forms of governance, monitoring mechanisms, and strongly interlinked networks to enable innovation through knowledge exchange and mutual learning. In contrast to Chaffin *et al.* (2016), Visseren-Hamakers *et al.* (2021) do not regard adaptive governance as separate from transformative governance or as needed in a different stage or setting, but as an integral part of transformative governance. Building on Visseren-Hamakers *et al.* (2021), Visseren-Hamakers and Kok (2022) regard transformative governance as the combination of integrative, inclusive, adaptive, transdisciplinary, and anticipatory governance approaches that are focused on addressing the indirect drivers of (sustainability) issues.

We use the conceptualization of transformative governance by Visseren-Hamakers *et al.* (2021) and Visseren-Hamakers and Kok (2022), thus studying to what extent partnerships include **integrative, inclusive, adaptive, transdisciplinary, and anticipatory governance** while targeting the **indirect drivers** of biodiversity loss. Table 2 shows how they have operationalized these approaches. Partnership contributions can range from non-transformative (not including any of the governance approaches and solely focusing on direct drivers) to potentially transformative (including at least one of the governance approaches to address indirect drivers). Full transformations are, according to Visseren-Hamakers and Kok (2022), only possible when all 5 approaches are employed in conjunction in specific manners and focused on indirect drivers. The concept of transformative governance is focused on the *process* and *direction* of governance, instead of the results, which makes it a useful concept to study ongoing, emerging, or potential transformations. However, it is important to note that transformative change can take place without transformative governance. Moreover, while the concept of transformative

governance combines different well-established bodies of governance literature (e.g., adaptive and inclusive governance), empirical research testing its contribution to achieving transformative change is still limited. Hence, we cannot be certain that following its principles will guarantee a contribution to transformative change.

From a transformative change perspective, preserving biodiversity entails changing the conditions that threaten the survival of species and constrain human efforts to conserve these species. In addition to studying the partnerships from a transformative change and governance perspective, we also analyzed the conditions that, according to the articles, enabled or constrained their efforts.

Table 2 : Operationalization of the governance approaches in transformative governance, adapted from Visseren-Hamakers *et al.* (2021) and Visseren-Hamakers and Kok (2022).

Governance approach	Manner of operationalization in transformative governance
Integrative	Includes governance mixes Requires coordination, integration, and combination of strategies
Inclusive	Addresses power asymmetries Empowers underrepresented rights-, knowledge- and stake-holders Recognizes new and innovative rights Emancipates those representing transformative sustainability values
Adaptive	Stimulates dialogue, learning, and reflection Reflects complexity
Transdisciplinary	Reflects diverse values, perspectives, and knowledge systems Adopts collaborative knowledge production systems Builds capacity for transformative governance
Anticipatory	Utilizing the precautionary principle when governing in the present for uncertain future developments, and especially the development or use of new technologies

2.3. Methods

We conducted a scoping review (Colquhoun *et al.*, 2014) to study the contribution of landscape-oriented partnerships to transformative change. Scoping reviews are suitable to analyze the current literature regarding a specific topic in a systematic but exploratory manner, to find knowledge gaps, and to analyze qualitative material.

2.3.1. Search strategy

Our search strategy included an initial search and two selection phases. For the initial search, we used two databases and one journal archive. We looked for relevant literature on Web of Science and GreenFile. The latter is a database specifically aimed at environmental science. Prior to their selection, we checked whether the journals that are known to the authors for publishing case studies on biodiversity conservation were included in these databases. *Biodiversity* (Taylor & Francis), a journal known for its case studies on biodiversity conservation, was not included in either database, therefore, we did an additional search in this journal's archive.

We developed separate search strings due to the differing natures of the databases (for an overview of all search terms, see Table A in the appendix), including groups of search terms related to biodiversity, collaboration, partners, and landscapes. For article storage and selection, we used Mendeley reference software. The three searches resulted in 3848 articles, of which 316 were to be doubles. After their removal, 3527 remaining articles were used for our first selection. We read the title and abstract and selected the relevant articles based on the following criteria: 1. Language of the article (English), 2. Type of article (case studies, action research, or experiments), 3. Type of partnerships (regional partnerships), 4. Aim of partnership (biodiversity conservation or restoration), 5. Focus of analysis (partnerships and/or collaboration between different partners must be studied/described in the article).

After checking the titles and abstracts of 3527 articles, only 143 articles were deemed suitable, of which 17 were not available as full texts. For the second selection phase, we analyzed the full content of the articles and assessed the quality of the research presented using the Critical Appraisal Skills Programme (2018), which resulted in the inclusion of 81 articles. We also added four articles found by reading the selected articles, using a snowballing strategy. This resulted in the inclusion of a total of 85 articles for the final analysis (for an overview of all articles, see list A in the appendix). These articles described a total of cases of 214 landscape-oriented partnerships for biodiversity, as some papers analyzed multiple case studies.

Throughout the selection phases, we excluded many articles for three reasons. First, we found that the used keywords had resulted in many articles *advising* collaboration in their conclusion or recommendations section. These articles have a natural science focus and did not analyze partnerships. This is itself an interesting finding, showing that there is a perceived need for (landscape-oriented)

collaboration in conservation, which is rarely substantiated. Second, many articles did not focus on biodiversity, but mentioned biodiversity as a sidenote. This relates, for example, to articles solely focusing on agriculture, in which biodiversity was mentioned but not one of the goals of the collaboration. Third, many articles did not focus on landscape-oriented partnerships, but on, for example, national-level collaborations, value-chain approaches, or internationally coordinated approaches, which were applied in different locations (but not specifically tailored to a landscape). The choice of keywords thus resulted in a need to exclude a high number of articles, but increased the chances of including all relevant articles.

2.3.2. Analysis

We performed the analysis and critical appraisal using Atlas.ti., starting with general codes based on our theoretical framework. Throughout the analysis, codes were added or excluded, working iteratively towards our final analysis, which focused on three aspects: partnership characteristics, activities of partnerships, and conditions. These aspects were used to give an overview of the landscape-oriented partnership literature (partnership characteristics), study whether the partnerships address *indirect drivers* (activities of partnerships), the extent to which they contribute to *transformative governance approaches* (characteristics and activities of partnerships) and the *conditions* they face in realizing their aims (conditions). An overview of the codes used in our final analysis is given in Table B in the appendix.

Partnership characteristics categories were inductively developed throughout the review, resulting in four categories used to provide an overview of our sample: geographical location (continents), partner composition (governments, businesses, NGOs, citizen groups and communities, farmers and fishers, and researchers or research institutes), environmental focus (species or ecosystems) and aim (biodiversity-centered or multi-aim).

As discussed in our theoretical framework, strategies are (sets of) *activities* executed to reach a certain aim. In our analysis, we experienced difficulties in analyzing strategies, as authors often only describe the activities and do not go into the theory of change behind the execution of these strategies. Therefore, we decided to focus our analysis on partnership activities and to what extent and how these activities target the indirect drivers of biodiversity loss. *Activities* were defined as deliberate actions executed by the partnership. As mentioned in the introduction, *indirect drivers* are the societal underlying causes of biodiversity loss, such as unsustainable policies, regulations, and paradigms.

In analyzing the activities, we used an inductive approach. We started off by coding every activity as ‘activity’, after which we tried to group the different activities found. After grouping the activities, we selected the types of activities that seemed to address indirect drivers. These activities are described in the results section. Activity types that were left out were, for example, financing conservation and physical interventions (such as planting trees). In describing the activities focused on indirect drivers, we did not aim to provide a quantitative overview, but rather a qualitative analysis of how landscape-oriented partnerships (can) address indirect drivers in practice.

Our analysis of *conditions* took place in a similar inductive way. For the sake of clarity, conciseness, and relevance, we focused on conditions that seemed specific for landscape-oriented partnerships and left out more generally, well-known conditions for conservation initiatives such as financial resources, trust, and leadership (see for example Dietsch *et al.* (2021)).

Throughout the coding stage, we used memoing to structure our analysis and results (Glaser and Strauss, 2017). Memoing helped us to work iteratively via a constant comparative method (Birks, Chapman and Francis, 2008), comparing our concepts with the codes, our codes with the data, and the data with our concepts.

2.4. Results

2.4.1. Partnership characteristics

The locations of studied partnerships show that landscape-oriented partnerships are globally present and studied (see Figure 13). The high percentage of European partnerships can be explained by the fact that many European-focused articles studied several partnerships. Although biodiversity loss is regarded as most pressing in the Global South, as this area harbors most biodiversity hotspots (Habel *et al.*, 2019), from a transformative change perspective, it is important that landscape-oriented partnerships are present worldwide since biodiversity is threatened globally.

NGOs are omnipresent in the partnerships, although not all NGOs prioritize biodiversity. The strong ecosystem focus of landscape-oriented partnerships may reflect a holistic perspective necessary for transformative change. With regard to aims, multi-aim partnerships seem to be just as popular as biodiversity-centered ones, and our results indicate that these partnerships are more often targeting indirect drivers.

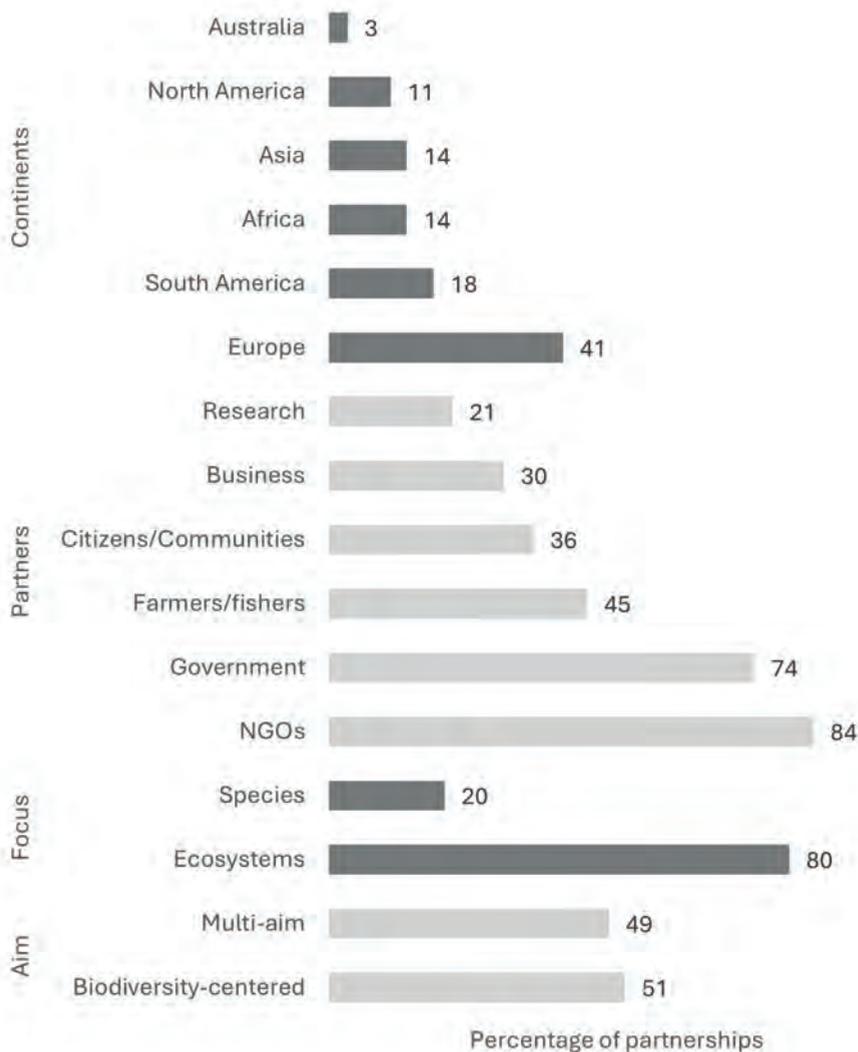


Figure 13: Characteristics of the included partnerships. X-axis represents the percentage of studied partnerships covering a geographic region (continent), including certain partners, focusing on ecosystems and/or species, and being multi-aim or biodiversity-centered.

2.4.2. Indirect drivers

To study the contribution of landscape-oriented partnerships, we studied their activities and their reported impact to analyze whether they focus on addressing the indirect drivers of biodiversity loss. While many partnerships work on the

implementation of conservation measures and policies and are focused on direct drivers, 49% of the studied partnerships appeared to address both direct drivers and indirect drivers.

During the analysis, it appeared difficult to establish whether these partnerships were also effective in contributing to structural changes. For example, addressing unsustainable fisheries to save biodiversity by engaging fishers in fisheries management is addressing an indirect driver, but if fishing is still considered a priority and fishing efforts do not decline enough to ensure healthy populations and ecosystems, it cannot be considered transformative. In the USA, NGOs have decreased the impact of fishing in partnership with fishers by buying out fishing vessels and licenses and contributing to the establishment of a protected area (Gleason *et al.*, 2013). Although quite effective in terms of biodiversity protection, its contribution to transformative change remains unclear. Other examples in which the structural impacts remained unclear included better hunting management to secure a sustainable wildlife population without focusing on changing human-animal or human-nature relations (Mbaiwa, Stronza and Kreuter, 2011), securing funds for wetlands restoration (Blicharska and Ronnback, 2018), and reforestation to combat desertification (Sacande and Berrahmouni, 2016).

Four approaches

However, some articles explicitly explained how landscape-oriented partnerships try to change norms and institutions, creating a suitable environment for biodiversity restoration and conservation. Within the literature, we found four different approaches. (1) Several partnerships aim for changes in farming or fishing practices, for example, by engaging farmers in conservation and creating a sense of ownership (Thompson, 2002; Rissman and Sayre, 2012). (2) Others aim at changing attitudes toward conservation via awareness campaigns, engaging citizens and communities in conservation, or showing people the value of biodiversity via the development of sustainable alternative livelihoods (Bryce *et al.*, 2011; Maynard *et al.*, 2021). A good example in which this approach was successful was a case of wild salmon conservation in Canada: “*Population recoveries of this magnitude are rare, particularly considering that restoration action did not alter any ecological processes (i.e. habitat enhancement, stocking, etc.). Instead, the human environment in which the ecosystem operated changed to the benefit of the salmon population, and to the benefit of the humans that interacted with it.*” (Cote *et al.*, 2021).

While these first two approaches are focused on individuals and communities, the last two are more focused on the governance of the landscape, and sometimes even beyond the landscape. (3) Some partnerships focus on capacity-building for

conservation on a landscape level via community-based organizations, the creation of national parks, or connecting different governance levels by creating a multi-level governance approach (Schwartzman and Zimmerman, 2005; Alcorn, Zarzycki and de la Cruz, 2010; Kelman, 2013). (4) Other partnerships try to change local, regional policies and national policies (Pinto *et al.*, 2014; Painter *et al.*, 2020; Riggs *et al.*, 2021), for instance, ones that hinder restoration efforts (Norman *et al.*, 2021). A new approach to protected area management involving local communities, creating alternative livelihoods, and thereby financing conservation in Vietnam was proposed and developed by a partnership, and was later adopted by the local government (Hughes, Corcoran and Lader, 2010).

Contribution to transformative change

Whether these approaches can contribute to transformative change depends on the underlying values of the approach. The IPBES value assessment stresses that we need to embrace instrumental, intrinsic, and relational values to realize transformative change for biodiversity (IPBES, 2022). Landscape-oriented partnerships inherently deal with different landscape functions relating to different types of values, as well as different stakeholders, and can thereby contribute to the acknowledgment of different values. Good examples are a Brazilian partnership that spatially integrated different values of nature by creating zoning for freshwater fisheries (Lopes, Silvano and Begossi, 2011), a French partnership that changed how farmers related to nature on their farms (Alarcon, Marty and Prevot, 2020) and a USA partnership aimed at combining conservation with the creation of long-term perspectives for ranchers (Thompson, 2002). Several partnerships work on the monetization of nature, for instance through payments for ecosystem services or the creation of entrance fees for national parks (Bremer *et al.*, 2016; Cochrane, 2013). Whether these examples represent transformative change depends on your perspective and the specific context. If one regards it as acknowledging the value of nature and integrating it into the system the answer is yes, but not if one regards it as working within a capitalist system where non-instrumental values are not acknowledged. Additionally, it also depends on whether the revenues are reinvested in conservation efforts, as is the case in the partnership described by Teh, Teh and Chung (2008), or whether this is unclear (e.g. Zinda (2012)).

In general, most partnerships find a way to work within the current system, as illustrated by a Swiss partnership: *“the cooperative is acting to sustain mountain agrarianism within an increasingly liberalized political-economy”* (Bardsley and Bardsley, 2014). This directly leads to the question of scale. As landscape-oriented partnerships work on a regional scale, they are not likely to contribute directly to global system change. However, some partnerships influence national politics. In

Oregon (USA), a community-based plan for salmon, which was supported by the governor, inspired federal-level policy changes (Walker, 2006). Another example is the Kelola Sendang Landscape initiative in Indonesia. It was initiated by an NGO with the intention that the policies and approach they developed in the landscape would be taken over by the provincial government (Riggs *et al.*, 2021). In Brazil, landscape-oriented partnerships enabled communities to participate in nationally managed reserves (Partelow *et al.*, 2018). Conversely, there are also partnerships focusing on specific ecosystems, such as boreal forests, working on a national level and influencing policy-making on a landscape level (Carlson, Wells and Jacobson, 2015).

What is striking when looking at the targeted landscapes is that landscape-oriented partnerships often work in protected landscapes such as national parks or their direct surroundings. To protect global biodiversity, efforts have to be made beyond currently designated protected areas, in every type of landscape. As many partnerships work within or support national parks, it is questionable whether these partnerships complement classic conservation approaches or are needed to sustain and successfully implement those approaches. In the case of the latter, their contribution to transformative change for biodiversity is limited.

2.4.3. Transformative governance

In our theoretical framework, we have explained how transformative governance can be realized by *combining* integrative, inclusive, adaptive, transdisciplinary, and anticipatory approaches (operationalized in specific manners) while focusing on indirect drivers. However, we do not expect partnerships to combine all these approaches themselves but to be able to contribute to transformative governance by aligning with one or more approaches and focusing on the indirect drivers of biodiversity loss.

Integrative governance

To contribute to integrative governance, a partnership should coordinate, integrate, and combine strategies focused on indirect drivers. As mentioned in the section on indirect drivers, 49% of the studied partnerships addressed indirect drivers when looking at different scales, including more local drivers such as unsustainable attitudes and practices. Many partnerships combined different activities, such as awareness-raising activities, collaboratively developed management plans, providing funding for conservation or sustainable resource management, and developing alternative livelihoods. This relates to our finding in section 2.4.1., where we show that 49% of the studied partnerships have multiple aims and 80%

focusses on the whole ecosystem instead of specific species, which points towards holistic approaches. Having multiple aims correlates positively with addressing indirect drivers, as 66% of the partnerships with multiple aims also address indirect drivers. Regarding partnerships focused on selected species, our research shows that this can also result in acknowledging the role of indirect drivers (e.g. Djosetro and Behagel (2020)), and that species can be used as a proxy for ecosystem health (e.g. Henson *et al.* (2009)). Thus, species-oriented partnerships are not necessarily non-integrative.

While many partnerships combine different strategies and are focused on indirect drivers, not many partnerships engage in changing policies, formal rules, and governance structures to enable conservation. In the articles, the focus is generally on the activities of partnerships, therefore, it was difficult to assess whether partnership efforts were also integrated with other governance arrangements, policies, initiatives, etc. The landscape focus of the partnerships might be a reason why many engage in using different strategies, often targeting the different functions and stakeholders within a landscape.

Inclusive governance

Inclusive governance addresses power asymmetries, empowers underrepresented rights-, knowledge- and stakeholders with transformative sustainability values, and recognizes new and innovative rights. This definition diverges from more traditional pluralist conceptions of inclusiveness in conservation, which often focus on including all types of stakeholders and values (Tallis and Lubchenco, 2014).

Some of the studied partnerships work specifically with partners in a powerful position, which could be regarded as a pragmatic but not transformative strategy (Pedroni *et al.*, 2013). However, there are also partnerships that deliberately try to change existing power relations (Alarcon, Marty and Prevot, 2020). Overall, most landscape-oriented partnerships, especially in the Global South, include underrepresented stakeholders. 71% of the studied partnerships involved at least one group of farmers, fishers, citizens, or community members, while 99% of the partnerships involved at least one NGO or group of farmers, fishers, citizens, or community members. Generally, these stakeholders do not have transformative sustainability values yet, if we define these as going beyond the mere instrumental value of nature.

Due to their landscape focus, the partnerships focus on different kinds of actors, generally those that live in and thus affect biodiversity in the landscape. The aim is often to create support for biodiversity, rather than to work with them because

they already support conservation. Although this might change or inhibit the envisioned destination of transformative change (as these actors might have other interests and values), including these actors in partnerships may contribute to the adoption of other or new values. Throughout the review, we found one example in which stakeholders were supported and empowered only if they aimed to ‘preserve social and environmental integrity’. The same partnership showed that supporting marginalized people does not directly result in pro-biodiversity behavior, but that this can be mitigated by developing collaborative, innovative conservation strategies (Schwartzman and Zimmerman, 2005).

Concerning new and innovative rights, landscape-oriented partnerships often focus on land (use) rights for Indigenous People and Local Communities (IPLCs), but we have not found any new or innovative rights approaches. Therefore, we can conclude that landscape-oriented partnerships are inclusive in terms of including many different (underrepresented) stakeholders, thus in a pluralist but not transformative manner.

Adaptive governance

Adaptive governance stimulates dialogue, learning, and reflection, and reflects complexity. This approach seems to be central to many partnerships and the researchers that study them, who often use an adaptive management or governance lens. However, while numerous articles use the word adaptive, only a minority of these studies substantiate adaptive governance practices. Where those practices are described, partnerships combine monitoring and deliberation to be adaptive. A good example is a case of sea duck conservation in Scotland, in which a scientific study led to a landscape-oriented partnership in which monitoring is used to evaluate and adapt measures in a collaborative fashion (Hancock *et al.*, 2020). To be adaptive, there needs to be room for maneuver and to experiment with locally adapted solutions. Landscape-oriented partnerships may be especially suited to do this, and some cases confirm these expectations (e.g., Wollstein and Davis, 2017; Di Giminiani and Fonck, 2018).

Transdisciplinary governance

Transdisciplinary governance reflects diverse values, perspectives, and knowledge systems, adopts collaborative knowledge production systems, and builds capacity for transformative governance. A way in which some partnerships contribute to transdisciplinary governance is by including local people and farmers in problem formulation, identifying drivers of biodiversity loss, and management plans (Mukhwana, 2002; Miller *et al.*, 2020; Painter *et al.*, 2020). There are good examples of how marginalized perspectives can be included (Cote *et al.*, 2021), how

partnerships can contribute to capacity building, and how knowledge can be produced with the help of non-scientific partners. However, the foundation of these partnerships is still Western (scientific) thought. Thus, we could argue that many partnerships are transdisciplinary to a certain extent, but the potential is much bigger than that.

Anticipatory governance

Anticipatory governance uses the precautionary principle when governing in the present for uncertain future developments, especially the development or use of new technologies. In our review, we couldn't find clear examples of partnerships that explicitly take the precautionary principle into account when developing activities. Thus, when using the definition of the transformative governance framework, the studied landscape-oriented partnerships do not seem to contribute to anticipatory governance. However, partnerships anticipate the future in different ways, e.g., they make use of scenario studies (Alcorn, Zarzycki and de la Cruz, 2010), facilitate discussions on the future (Bardsley and Bardsley, 2014) or develop joint visions on the future (Riggs *et al.*, 2021).

2.4.4. Conditions

Landscape-oriented partnerships are constrained in preserving biodiversity by several conditions. We used an inductive approach to analyze the conditions that, according to the articles, impacted the functioning and/or results of partnerships. While our analysis resulted in a long list of conditions, three seemed most prominent and typical for landscape-oriented partnerships: political support, land ownership, and natural-spatial conditions.

A recurring theme in the articles is political support and the alignment of policies and regulations with the objectives of partnerships. Supportive policies and legislation can be an important condition for conservation success, while their absence can be an important barrier (Cochrane, 2013; Blicharska and Ronnback, 2018; Martin, 2021). This shows how partnerships cannot substitute governmental efforts for conservation, but that they are (potentially) complementary. Related to this is the need for law enforcement, which is often mentioned as an important factor for success or failure (e.g. Granek and Brown, 2005; Austin and Eder, 2007; Kelman, 2013), although some partnerships are active in law enforcement (Chaudhuri, 2013). As discussed in section 2.4.2., there are partnerships that actively try to gather political support or change policies and regulations (Pinto *et al.*, 2014; Neelakantan *et al.*, 2021; Norman *et al.*, 2021; Riggs *et al.*, 2021).

A condition that is crucial to some partnerships is land ownership. In landscapes where there is a lot of private land, support from land owners is key and can be created by providing economic or social incentives (e.g., relating to an improved sense of place) (Blicharska and Ronnback, 2018). In some countries in the Global South, the lack of ownership of land makes it harder for communities to engage in conservation, co-management of natural resources, and sustainable agriculture (Mbaiwa, Stronza and Kreuter, 2011). Clarity in land ownership enables partnerships to achieve results in conservation, as they do not need to engage in legal and political struggles around ownership and can more easily coordinate conservation efforts on a landscape scale (Thompson, 2002). However, patched ownership in the sense of a combination of public and private lands makes it more difficult for partnerships to develop appropriate strategies and a focus on private interests in general (whether this refers to land owners or local communities) can be unbeneficial for conservation (Higgins *et al.*, 2007; Cochrane, 2013; Lamers *et al.*, 2014). The influence of land ownership is thus context and place-dependent, and landscape-oriented partnerships might be better able to adapt their strategies to this than general, non-landscape-oriented partnerships.

Another recurring condition was the influence of natural-spatial conditions. While conserving the landscape and its biodiversity is the goal of partnerships, having a well-conserved area with good environmental quality and flagship species makes it easier to press for conservation and to develop alternative livelihoods (Ateweberhan *et al.*, 2018; Hancock *et al.*, 2020). Another natural-spatial condition is the geographical location of landscapes. In isolated areas, where the distance between villages or between villages and cities is big, it is harder to develop alternative livelihoods or to participate in landscape governance (Gotor *et al.*, 2013; Partelow *et al.*, 2018). To contribute to transformative change, it is complicated if partnerships can only work in pristine environments. We have not found any examples of partnerships operating in heavily deteriorated landscapes, and it would be interesting to see what different strategies they could use.

As mentioned before, transformative change is, in its essence, about changing the societal conditions – or indirect drivers – that hinder biodiversity conservation and restoration. When looking at the three conditions, landscape-oriented partnerships seem to be able to influence and change political support, policies, and regulations, and deal with different land ownership structures, but seem quite dependent on the natural spatial conditions.

2.5. Discussion

2.5.1. Transformative change and governance

Based on our review, we can conclude that the contribution of landscape-oriented partnerships to transformative change is limited. 51% of the partnerships only address direct drivers. The other 49% also address indirect drivers, yet the evidence of their structural impacts in the studied literature is inconclusive. This may have several reasons. First, indirect drivers relate to aspects of human society (e.g., values, institutions) that are not addressed by partnerships that focus solely on conservation. Second, while a landscape focus can aid in understanding how indirect drivers impact biodiversity on the ground, and thus which drivers should be addressed, many drivers are beyond the landscape level, and partnerships might be unable, feel unable, or be unwilling to address these. Third, the timespan of research is often not long enough to assess the long-term, structural impact of partnerships, which makes it difficult to assess their contribution. Fourth, not all indirect drivers have the same type of impact. While changing policies is clearly a structural change, farmers who change their practices or people who develop different attitudes to conservation can still be hampered by the unchanged, structural conditions they face such as a lack of political support, a lack of financial, material, or human resources or unsecured property or civil liberties rights.

Regarding their contribution to transformative governance, landscape-oriented partnerships generally use integrative and (pluralist) inclusive approaches, while partnerships that use adaptive, transdisciplinary, and anticipatory approaches are rare. Interestingly, adaptive governance is often mentioned in the articles, and while some partnerships have clearly shown to be adaptive (Hancock *et al.*, 2020), most articles do not describe the adaptive practices themselves. Our review confirms the consensus within landscape governance literature (Bennett *et al.*, 2022) that landscape-oriented partnerships are particularly suitable to be integrative, inclusive (in a pluralist way), and in some cases adaptive and can thereby deal effectively with the specific circumstances of different landscapes. Based on their characteristics (multi-stakeholder, multi-sectoral, participatory), we expect them to also be able to contribute more to transdisciplinary and anticipatory governance than is currently the case.

Coming back to inclusive governance, while transformative governance demands collaboration that includes and empowers stakeholders with transformative values, there might be actors that need to be included to be able to address indirect

drivers who do not (yet) embrace transformative values. However, research has shown that if partners are included who have lower or different ambitions, this negatively impacts the outcomes (Newig and Fritsch, 2009). Moreover, optimization of or compromises between biodiversity and other societal goals can hamper biodiversity conservation and restoration (Visseren-Hamakers *et al.*, 2022). Hence, including partners without (high) ambitions for biodiversity might negatively affect their conservation outcomes and contribution to transformative change. As partnerships are voluntary arrangements and realizing and maintaining partner commitment can be a daunting task, most landscape-oriented partnerships in our study tended to focus on balancing different values and interests. Moreover, as mentioned in the previous paragraph, this pluralist approach is typical for landscape governance, thus leaving us with the question of whether landscape-oriented partnerships are suitable for contributing to *transformative* inclusive governance.

2.5.2. Implications for conservation

Although our data has shown that the overall contribution is limited, our review offers some examples of how landscape-oriented partnerships can contribute to transformative change and governance.

One of the rare but promising examples is the earlier-mentioned partnership for salmon restoration in Newfoundland, Canada. Instead of using conventional management measures, the managers of the area decided to restore the population in partnership with the local community (Cote *et al.*, 2021). The managers expected that establishing more rules and regulations would not help, because this would not address the main cause of population declines, namely illegal fishing. To tackle illegal fishing, the managers tried to address the conflicting values and a lack of trust between the community and the managers. Therefore, they developed an adaptive and transdisciplinary management approach including ecological modeling and shared responsibilities between managers and community members. An important element of this partnership was its combination of ecologically and socially-oriented strategies, aimed at restoring both the salmon population and changing human and human-nature relationships. Another promising example is the Heartland Conservation Program on the border of Kenya and Tanzania. This partnership combined protected area development with the creation of conservation enterprises, capacity building, and influencing policies and regulations (Henson *et al.*, 2009). The examples seem to share two characteristics: they combined ecologically and socially-oriented strategies, and they monitored and adapted their approaches according to the circumstances. Moreover, both

examples focused on changing the governance of biodiversity, albeit on a different level.

Next to combining ecologically and socially-oriented strategies and using adaptive governance principles, connecting with different levels of decision-making seems to be another way forward. As we found in our review, supportive policies and regulations are considered one of the key enabling conditions for biodiversity conservation in landscapes. Trying to change policies using strategies such as knowledge dissemination or lobbying might therefore be the most *transformative* strategy landscape-oriented partnerships may have, especially as this has an impact beyond their specific aims, geographical scale, and timespan. Two examples of partnerships that try to do this are an Indian partnership focused on tiger conservation, which includes and supports partners who are influencing policies, notably by being a third-party external advisor in conservation policy making at the national and state level (Neelakantan *et al.*, 2021), and an Indonesian partnership which combined integrated governance with a focus on engaging with decision-making on the relevant policy levels (Riggs *et al.*, 2021). However, to what extent these partnerships are successful in changing policies and regulations is uncertain.

In summary, this research shows that landscape-oriented partnerships are not a silver bullet to enable transformative change and halt biodiversity loss. Some indirect drivers of biodiversity loss, such as unsustainable consumption patterns or trade agreements hindering sustainable development, need to be addressed using or combining landscape-oriented partnerships with other arrangements and instruments. Landscape-oriented partnerships need not to be dismissed, but can be useful in addressing regional and national level drivers such as unsustainable policies, farming and fishing practices, and attitudes. Moreover, they can work in an integrative, inclusive (in the pluralist sense), adaptive, and transdisciplinary manner, and may therefore be a complementary layer in transformative biodiversity governance.

2.5.3. Towards a research agenda for landscape-oriented conservation

This review enables us to identify a number of key issues that need to be studied further. First, the theory of change of many partnerships remained unclear. In other words, how partnerships think that their activities contribute to their aims remains elusive. Studies showing evidence of how a theory of change works out in practice are even rarer (Maynard *et al.*, 2021). Assumptions forming the basis of partnership action are often not critically assessed. For example, it is commonly assumed that combating poverty stimulates pro-biodiversity behavior. The studies that do dive

into that, such as Van den Bergh (2014), show that this is not necessarily the case. Moreover, it is unclear whether landscape-oriented partnerships have transformative aspirations in the first place. To understand their contribution to transformative change, we first need to scrutinize their theory of change and (transformative) intentions.

Second, and related to the first issue, the impact of partnerships is rarely described or evaluated, both in terms of direct conservation success (e.g., population recovery) or changes in indirect drivers (e.g., changed policies, changed attitudes). Case studies lack a baseline assessment as well as evidence for claimed impact, making it difficult to distinguish whether they are not successful or whether there is insufficient data. Therefore, it is necessary to develop in-depth transdisciplinary case studies (involving natural scientists, social scientists, and practitioners).

Third, we used the transformative governance framework to study landscape-oriented partnerships, but we have yet to find an example in which all its principles are applied to analyze its role in transformative change. It is also unclear under which conditions and in which form transformative governance supports transformative change. For example, it is unclear under which conditions a more pluralist approach to inclusive governance or a selective group of actors with transformative values is more effective in realizing transformative change for biodiversity.

Fourth, we focused on articles describing specific landscape-oriented partnerships. Some of these partnerships are part of broader transnational partnerships (Henson *et al.*, 2009; Ahebwa, Van Der Duim and Sandbrook, 2012; Bremer *et al.*, 2016) or are supported by or include international organizations (Schwartzman and Zimmerman, 2005; Cochrane, 2013; Gleason *et al.*, 2013). A further study with more focus on the relationship between local and international partnerships is suggested to assess whether this construction enables isomorphism and learning across landscape-oriented partnerships and thereby enhances their (collective) contribution to transformative change.

The last question that needs further investigation is the type of landscape that is addressed. Most partnerships focus on protected and sometimes pristine landscapes, contributing to the conservation of these landscapes by addressing direct and sometimes indirect drivers. Nature in these landscapes is often used as an asset to develop sustainable tourism or other economic activities, whose revenues can flow back into conservation efforts. We should therefore investigate whether landscape-oriented partnerships as governance arrangements work in

every type of landscape, or whether we need other types of arrangements for less pristine or biodiverse places.



3 Reimagining National Parks

*From nature reserves towards
transformative partnerships*

Abstract

As biodiversity declines globally, conservationists are increasingly recognizing the necessity of expanding their efforts beyond traditional nature reserves to tackle the complex drivers of biodiversity loss. A newly proposed Dutch National Park, called Hollandse Duinen, is based on this idea. Instead of merely a reserve, this park is a landscape-oriented partnership and 'NP 3.0'. By prioritizing a comprehensive landscape focus, this initiative might have the potential to drive transformative change. This study employs Q-methodology to assess whether there is support for transformative change and governance within the partnership. Our analysis identified four distinct discourses, each highlighting various elements of transformative change and governance; however, none was fully aligned with the transformative governance framework. Thus, our analysis shows that the different elements of a transformative discourse are not 'naturally' aligned: supporting one element does not lead to the automatic support of another element. The (theoretical) understanding and conceptualization of how the different elements relate and reinforce each other is thus not always shared in practice. Moreover, our research shows that partners see a conflict between some transformative governance principles and their experience of working in partnerships, thus questioning the potential role of such partnerships in transformative governance for biodiversity.

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3.1. Introduction

While biodiversity has been in decline since the start of the Holocene, processes of modernization (including colonialism and industrialization) have accelerated this decline, impacting nature in terms of the size of populations and range of habitats, ecosystem integrity, and genetic diversity (Moore, 2017; Díaz and Malhi, 2022). While addressing direct drivers of biodiversity loss is essential (such as habitat loss), addressing the indirect drivers of biodiversity loss (such as societal values and governance structures) is just as important (Jaureguiberry *et al.*, 2022). Therefore, there is a growing consensus that we need transformative changes to 'bend the curve' of biodiversity loss (Mace *et al.*, 2018; Visseren-Hamakers *et al.*, 2021; Pascual *et al.*, 2022; Schmeller and Bridgewater, 2023).

The process of transformative change is likely to be uncertain and politically contested. As a result, transformative changes may not always (directly) take the shape of large-scale systemic changes. More likely, such changes will first take place at lower levels (Torfing, Ansell and Sørensen, 2024). In recent years, landscape-oriented conservation has attracted scholarly attention as a particularly promising governance arrangement (Meijer *et al.*, 2021; Meier, Lüscher and Knop, 2022). Also in conservation policy, landscape-oriented partnerships are even pushed as ‘procedural tools’ of government (Howlett, 2000) to steer change, i.e., by funding or otherwise incentivizing them. In these partnerships, actors from different sectors work together based on collaboratively defined rules and procedures, trust, and social learning (Driessen *et al.*, 2012; McNamara, 2012). In that process, actors further develop shared goals and strategies, united by shared planning concepts that help develop images of the desired course of action (Hajer and Zonneveld, 2000).

Whether landscape-oriented partnerships may indeed be an effective governance arrangement, or even a procedural policy ‘tool’ for realizing transformative change, remains an open question in the literature. We assume that, in order to have transformative potential, a landscape-oriented partnership requires partners that support transformative change and governance. This potential will be larger when the different partners share a transformative discourse (Newig and Fritsch, 2009; Emerson and Nabatchi, 2015).

To be transformative, they must support transformative values (e.g., the intrinsic value of nature), be willing to address the indirect drivers of biodiversity loss, and do so in a transformative way, for example, by following transformative governance approaches consisting of integrative, inclusive, adaptive, transdisciplinary, and anticipatory governance (Visseren-Hamakers *et al.*, 2021; Visseren-Hamakers and Kok, 2022). A review on landscape-oriented partnerships by de Koning *et al.* (2023) (**chapter 2**) showed that around half of the studied partnerships focus on indirect drivers, and among these, many partnerships implement a form of integrative and inclusive governance. Why adaptive, transdisciplinary, and anticipatory governance is implemented less often, and whether the partnerships actually have the intention to be transformative, remained unclear (de Koning *et al.*, 2023). Therefore, the aim of this paper is to study the transformative potential of landscape-oriented partnerships by looking at partner support for transformative change and governance, and the coherence among the perspectives of partners.

The National Park Hollandse Duinen (NPHD), located in the west of the Netherlands (see Figure 14), provides an interesting case to study these questions for two

reasons. First, the partnership is based on a new, potentially transformative concept: the National Park 3.0 (Leltz *et al.*, 2022). Second, this landscape-oriented partnership was stimulated by new governmental policies. The NPHD was initiated based on an election for the ‘most beautiful nature area of the Netherlands’, which was followed up by a new Dutch policy for national parks (Nationale Parken Bureau, 2021). This new policy promoted the idea of national parks in a ‘new style’, which the founders of the NPHD further developed in the concept of National Parks 3.0. (Commissie Verkenning Nationale Parken, 2020; NPHD, 2020; Leltz *et al.*, 2022). The Dutch government promised funding for such a landscape-oriented partnership, as it believed that “*a National Park is a product of regional collaboration, ensuring that the regional community identifies with the area, is proud of the area and want to maintain and strengthen the area*” (p. 28, Ministerie van LNV, 2023). The partnership includes 62 different partner organizations, ranging from classic conservation actors such as governments and nature organizations to less conventional actors such as golf clubs and holiday parks.

National parks have traditionally functioned as an important policy concept in biodiversity conservation, while also changing over time due to broader discursive shifts in biodiversity governance (Janssen, 2009; Kubo and Supriyanto, 2010; Arpin and Cosson, 2021). It is stipulated in national law and defined as a concept by, e.g., the IUCN. The development of the first national park (Yellowstone) in 1872 marks the beginning of nature conservation focused on conserving specific territories based on geological (1.0) and later also biological features (2.0) (Smith, 1999; Leltz *et al.*, 2022). With their National Park 3.0 concept, the founders stress the relationship between humans and nature and aim to include urban and rural areas surrounding protected areas into the contours of the park. Thereby, it resembles and builds upon existing approaches such as National Landscapes, UNESCO Biosphere Reserves, IUCNs protected land- and seascapes, and urban national parks (Kuiper *et al.*, 2022).

To study whether the partners of the park support transformative change and the use of transformative governance principles, we study the discourses on the park among partners using Q-methodology. Discourses are a “*shared way of apprehending the world*” (p. 5, Dryzek, 2013), and can exist at different ‘levels’, ranging from overarching, underpinning philosophies to subjective positions on specific policies, programs, or concepts (Hajer, 2003; Mehta, 2010). Q-methodology is often used in studying landscape discourses, especially to understand and improve the governance of the landscape (Langston *et al.*, 2019; Torralba *et al.*, 2023; Langston, Ros-Tonen and Reed, 2024). We use Q-methodology to explore the

different discourses on the park among partners, looking at values, drivers, and governance, and thereby assess the park's transformative potential.

This paper proceeds as follows. In the theoretical framework, we explain the concepts of transformative change and governance. In the material and methods, we explain how we have translated these concepts into three ideal-type discourses for our Q-study. In the results, we discuss the discourses that we found and the consensus among them. In the discussion, we reflect on the transformative potential of the NP 3.0 concept, the perspective of partners on transformative governance, and the coherence among the different discourses.



Figure 14: Overview of existing national parks in the Netherlands (red contours), landscape development zones (light blue areas), initiatives for new parks (blue stars), Natura 2000 areas (dark green areas) and the Dutch National Nature Network (light green areas) (Ministerie van LNV, 2023).

3.2. Theoretical framework

To analyze whether the discourses articulated by the partners on the National Park are transformative, we look at three elements we assume are important: the values that partners support, the drivers of biodiversity loss they want to address, and how they plan to achieve this. This is based on the idea that the transformative potential of a governance arrangement is not only dependent on its principles and ambitions, but also on how its partners want to achieve this (Visseren-Hamakers *et al.*, 2021; Westerink *et al.*, 2023).

Thus, the first element are the values underpinning the partners' support of the park. It is known that the values underpinning landscape governance have a profound impact on how the landscape is imagined, used, and managed (Langston, Ros-Tonen and Reed, 2024). We distinguish three types of values: 1) instrumental values, 2) relational values, and 3) intrinsic values (Arias-Arévalo, Martín-López and Gómez-Baggethun, 2017; Himes and Muraca, 2018). For transformative change to come about, we need a shift from focusing solely on instrumental values of nature towards a plurality of values of nature, including intrinsic and relational values (IPBES, 2022).

The second element are the direct or indirect drivers that are addressed. While direct drivers refer to the direct causes of biodiversity loss, such as pollution or habitat fragmentation, indirect drivers refer to the underlying causes, such as certain agricultural policies, or, for example, our consumption culture (Isbell *et al.*, 2023). While values can be seen as the most important indirect driver and deepest leverage point (Arias-Arévalo *et al.*, 2023; Pascual, Balvanera and Christie, 2023), or even underlying the indirect drivers, we chose here to distinguish between the values partners support or agree with (endorsement), and whether they see values as a driver of biodiversity loss which the partnership should address (action).

The third element is the type of governance approaches that are mobilized. According to the literature on transformative governance (Visseren-Hamakers *et al.*, 2021; Visseren-Hamakers and Kok, 2022), five approaches should be implemented in conjunction: integrative, inclusive, adaptive, transdisciplinary, and anticipatory governance. For an overview of the five approaches, see Table 3.

Table 3 : An overview of the five transformative governance approaches, based on Visseren-Hamakers et al. 2021 and Visseren-Hamakers and Kok (2022).

	Governance approach	Manner of operationalization in transformative governance
<i>Focused on addressing the indirect drivers</i>	Integrative	Includes governance mixes Requires coordination, integration, and combination of strategies across sector, issues, levels of governance and places
	Inclusive	Addresses power asymmetries Empowers underrepresented rights-, knowledge- and stake-holders Recognizes new and innovative rights Emancipates those representing transformative sustainability values
	Adaptive	Stimulates dialogue, learning, and reflection Reflects complexity
	Transdisciplinary	<u>Reflects diverse values, perspectives, and knowledge systems</u> Adopts collaborative knowledge production systems Builds capacity for transformative governance
	Anticipatory	Utilizing the precautionary principle when governing in the present for uncertain future developments, and especially the development or use of new technologies

Thus, to be transformative, the literature assumes that a partnership should: 1) embrace a plurality of values of nature, including the intrinsic value, 2) address both direct and indirect drivers of biodiversity loss, and 3) include transformative governance approaches. There is some overlap between these three elements, as values and indirect drivers are already integrated in the transformative governance framework (see the underlined text in the Table 3). However, it is potentially possible that a partnership is transformative in one element, but not in another. For example, when it supports the intrinsic value of nature, but is solely focused on a single sector, without integrating, coordinating or combining this with other arrangements that are working with different sectors (see integrative governance in Table 3). In that case, a partnership is not fully transformative.

To study the presence of transformative governance discourses among partners of the park, we developed three ideal types of governance discourses for national parks (see Table 4). Thereby, we distinguished between transformative, reformist (incremental change within the system) and status quo discourses (not focused on changing the current situation/focused on not worsening the current situation) (Pickering, Bäckstrand and Schlosberg, 2020).

Table 4 : *Overview of the three ideal-type discourses on the park and its governance.*

	Transformative	Reformist	Status quo
Values	Intrinsic values	Relational values	Functional values
Drivers	Contributing to changes outside of nature areas and in different sectors	Contributing to changes in the direct vicinity of nature areas and inspiring sustainable change	Directly contributing to nature conservation
Integrative governance	Integrative policies and projects that prioritize nature conservation	Collaboration among partners to achieve win-win results	Coordination and alignment of activities in the park area
Inclusive governance	Strengthening the position of less powerful actors	Engage all stakeholders	Engage mainly direct stakeholders and financially contributing partners
Adaptive governance	Continuous and active reflection on underlying values and goals	Active reflection on goals	Monitoring goals and adapting nature conservation practices
Transdisciplinary governance	Include other types of knowledge and engage actors in knowledge production	Include social scientific research	Focus on scientific ecological research
Anticipatory governance	Focus on long-term thinking and future generations	Focus on no-regret measures	Focus on swift actions and near-future developments

3.3. Material and methods

3.3.1. Doing Q-methodology

To study the partners' discourses on the park, we used Q-methodology. Q-methodology is a mixed method to study different subjective positions among a population. Participants receive a set of cards with statements or images, developed by the researchers, and have to rank them in a grid (the so-called Q-sort) (see Figure 15 for the grid used in this study). A factor analysis is consecutively used to compare the different rankings by participants and extract different 'factors'. These factors can be understood as the different discourses present in the population under study (Watts and Stenner, 2005). Therefore, we will refer to the factors as discourses in the results section.

Q-methodology is useful to study the interrelations between different themes or subjects from the viewpoint of participants (Watts and Stenner, 2005). In our case, it is an especially useful methodology for three reasons. First, it can help identify consensus and contrast in perspectives using a structured approach. Second, it allows us to systematically discuss different values, drivers, and governance approaches with all participants. Third, it enables us to offer and test potentially non-existing perspectives on the park by providing statements developed based on theory (Cross, 2005).

Moreover, it is useful to map the coherence between different elements of a discourse (Watts and Stenner, 2005), which can be helpful to explore the transformative potential of partnerships.

In short, our Q-methodology consists of the following steps:

- 1) Developing a theoretical framework and ideal type discourses
- 2) Studying the 'concourse', the wide range of what is 'sayable' about the theme in question;
- 3) Developing statements based on the concourse and theoretical framework;
- 4) Conducting the Q-interviews;
- 5) Doing a factor analysis to uncover the discourses; and
- 6) Interpreting the discourses.

total, 43 statements were developed (see Table 5), which is close to the average number of statements of Q-sorts (39) (Sneegas *et al.*, 2021). The statements were numbered randomly to avoid participants from being influenced by our systematization.

Table 5 : *Statements developed for the q-sort. Numbers behind the statements refer to the number the statement was given in the q-sort and will be used in the remainder of the article to refer to the statement.*

	Most transformative 'Transformative'	In-between 'Reformist'	Least transformative 'Status quo'
Values	Society should become nature-inclusive (15)	Experiencing nature should be central to the park (9)	Recreation should be central to the park (39)
	The park should contribute to a better balance between humans, nature, and the economy (37)	The park should enhance the connection between people and the landscape (33)	The park should contribute to economic development in the region (12)
Drivers	Nature cannot be protected without a transition towards sustainable agriculture (31)	Areas surrounding nature areas should be better protected (18)	Nature conservation should mainly take place within protected areas (7)
	Partner actions should contribute to changes in relevant value chains (28)	The park should inspire people to live a more sustainable lifestyle (43)	Nature conservation should not have a negative impact on export-oriented agriculture (42)
	Park developments should contribute to more sustainable policies (17)	The park should be an example for other areas where natural areas are located close to or within urban and rural areas (5)	The park should focus on concrete nature conservation or restoration projects within protected areas (30)
	The park should try to address drivers of biodiversity loss outside of the park's borders (23)	The park should stimulate people to recreate outside of protected areas (2)	

	Most transformative 'Transformative'	In-between 'Reformist'	Least transformative 'Status quo'
Integrative governance	<p>All park projects should be dealt with in an integrative manner (14)</p> <p>Nature conservation must be the point of departure for all policy processes (26)</p>	<p>The park should stimulate collaboration between partners (24)</p> <p>In the park, win-win results should be strived for (11)</p>	<p>The park should contribute to better coordination and alignment of activities in the park area (27)</p>
Inclusive governance	<p>Groups or organizations that prioritize nature conservation should have the strongest voice in park projects (38)</p> <p>The position of groups or organizations with outspoken sustainability initiatives should be strengthened (8)</p> <p>Nature should have a voice as a stakeholder in the park (35)</p>	<p>All stakeholders, including inhabitants, should be engaged in park projects (25)</p> <p>The park should give partners with ambitions for biodiversity an important say in the park (3)</p>	<p>Park projects should be executed by direct stakeholders (34)</p> <p>Partners that are financially contributing should have the strongest voice in the decision-making processes of the park (29)</p>
Adaptive governance	<p>There should be active reflection on the underlying values of the park (19)</p> <p>Continuous reflection is important to reach the goals of the park (41)</p>	<p>There should be active reflection on the goals of the park (22)</p>	<p>Nature development practices should be able to be adapted throughout the process (20)</p> <p>The progress of reaching park goals should be monitored (40)</p>

	Most transformative 'Transformative'	In-between 'Reformist'	Least transformative 'Status quo'
Transdisciplinary governance	Inhabitants and partners should be actively engaged in developing and doing ecological research in the park (36) Apart from scientific knowledge, other types of knowledge and experiences should be taken into account in the development of policies (1)	Social processes, like the relationship between humans and nature, should also be studied in the park (4)	Ecological research in the park should be done by independent scientific experts (13)
Anticipatory governance	Future generations should be taken into account in case of new developments in the park (16) Long-term thinking must become an integral part of the park's decision-making processes (1)	It is important to invest in taking no-regret measures within the park (21)	New developments should be given free rein in the park (32) It is important to take swift action (6)

3.3.4. Conducting interviews

After the statements were developed, we developed a grid ranging from -4 to +4 using a bell-curve shape (see Figure 16). To the participants, we presented the grid with numbers 1 to 9. We made this choice to enable them to indicate themselves where 'disagree' ended and 'neutral' or 'agree' started and not be steered or confused by the – and + symbols. We piloted with 2 researchers who are not part of this author team but who are also conducting research in the National Park. During the pilot, three empty cards were handed to the participants, which they could use to fill in statements that they missed in the statement set. This did not lead to additional statements, but indicated saturation. After final alterations were made, the q-sort was conducted with partners of the National Park.

During the interviews, there was some confusion about statement 42 (*Nature conservation should not have a negative impact on export-oriented agriculture*), which was phrased using a Dutch saying ('Ten koste van'). It was not clear to all participants whether the statement meant that nature conservation could have a negative impact on export-oriented agriculture, or should not have. In cases where this statement had not been discussed during the interviews, we checked this afterwards with the participants. In three cases (respondent 7, 11, and 21), the statement was placed incorrectly, and the statement has been given the opposite position for data analysis (3 instead of 7, 3 instead of 7 and 2 instead of 8). This means that the distribution of statements of these 3 q-sorts is slightly different than that of the other sorts. Therefore, in our analysis, we treated all sorts as having a free distribution. According to Brown (1971), there is no significant difference between factor structures whether a free or forced distribution has been used. Therefore, we do not expect this to have had a significant impact on our results.

3.3.5. Factor analysis and interpretation

To analyze the Q-sorts, we used PQmethod. To define the number of factors to retain for final analysis, we followed the guidelines suggested by Brown (1993), where factors must have at least two significant factor loadings (± 0.48 at $p < 0.01$) by participants, and the eigenvalue should exceed 1. For factor extraction, we used principal component analysis (PCA) with varimax rotation and automatic flagging. By using PCA with varimax rotation, we maximize explained variance and do not allow for correlation between factors.

This led to four discourses. 3 out of 28 participants did not load significantly to one of the discourses (and thus did not cluster around a shared view); 2 out of 28 participants loaded significantly to more than one discourse (confounded q-sorts). We checked whether this amount of insignificant and confounded q-sorts decreased when increasing or decreasing the number of discourses, but this increased rather than decreased the amount of insignificant and confounded Q-sorts. The Q-sort data per statement per participant can be found in Table E and Table F in the appendix.

After analyzing the discourses in more detail, we analyzed our semi-structured interviews to check whether the discourses made sense in the light of the information provided by the participants after the q-sorting. Except for one interview in which recording was not allowed, all Q-interviews have been transcribed and analyzed using Atlas.ti.

Based on the factor analysis and the interviews, we developed a narrative description of the four discourses, which we discussed with the park director and sent to all participants. Participants received an overview of all the discourse descriptions and characterizing and distinguishing statements per discourse, as well as which factor they loaded on most strongly. In cases where a participant did not load significantly to one of the discourses, we stated to which 2 factors their q-sorts were most correlated. In the email, we asked participants to give us feedback on whether they recognized their own perspective in the narrative description. We got feedback from 10 participants (including all 4 discourses), of which 9 recognized their views in the descriptions. Only one of the participants could not relate to the discourse they loaded on, as they found the description too abstract to relate to.

3.4. Results

In the result section, we start with the consensus between the different discourses, after which we provide an elaborate description of all four. The narrative descriptions of the discourses are grounded in the characterizing statements (statement is characteristic of the discourse) and distinguishing statements (statement is scored differently than in other discourses) per discourse. An overview of these statements and their values can be found in Table 6. In the descriptions, the statements that are referred to are placed in brackets (number of the statement, Q-sort value (ranging from -4 to 4)).

3.4.1. Consensus between discourses

The consensus statements, statements which were scored equally among all discourses, were mainly statements which were scored neutrally. Two of them were about sustainability in general: *Partner actions should contribute to changes in relevant value chains* (28) and *Park developments should contribute to more sustainable policies* (17). Most partners see the park as an instrument for nature conservation, not for enhancing sustainability in general. At the same time, discourse 1 *Prioritizing nature* and 3 *Experiencing nature* do suggest that the park should address drivers of biodiversity loss outside of the park (23). Thus, while not becoming concrete, some partners do see a role of the park beyond classic nature conservation and the borders of the park.

Active reflection on values was scored quite low in most discourses as well (19), just as engaging inhabitants and partners in research (36). These were seen as not important to achieving the goals of the park. The clearest agreement among

partners is that they fully disagree on *New developments should be given free rein in the park* (32). There is consensus that free rein is never a good idea in nature conservation and spatial planning.

A similarity which we also found was that all factors had high scores on one or both statements relating to experiencing nature (9) and connecting with the landscape (33). ‘Experiencing nature’ was by some participants also interpreted as putting nature central, instead of recreation, such as in statement 39:

“Well, I think that indeed, nature should be central, experiencing nature. Yes, on the one hand, yes, but on the other hand, areas that need protection just need to be protected. And areas that can become more livable or enjoyable, you should make more livable. That is already a big challenge, but you should make people aware of why you are protecting nature” (Respondent 9)

3.4.2. Discourse 1: Prioritizing nature

In this discourse, nature conservation is central (18, 4; 30, 2; 23, 3). In the park, nature should be protected, for its own sake, but also for people to be able to have nature experiences (9,4):

“Where is the unique nature in the area? Let nature just be in such places.” (Respondent 26)

Moreover, not only should nature in the officially protected areas be conserved, but also nature outside these areas (7, -3). Also, this discourse strongly acknowledges the influence of indirect drivers, such as the regional focus on export-oriented agriculture (42, -4).

The focus on nature becomes even clearer when looking at inclusiveness. Nature should be a stakeholder within the park (35, 3), and partners that prioritize nature and have clear biodiversity ambitions should have a stronger position in the park (3, 2; 38, 1) according to this discourse.

Thus, in terms of inclusivity, not everyone needs to be included according to this discourse, nor have a say in the park (25, -2; 29, -2). Moreover, it does not see the park as being primarily focused on collaboration (24, -1; 27, -3, 11, -3), but rather on nature protection. This discourse is not focused on reflection and monitoring, nor is it strongly focused on the future, although it condemns short-term thinking (6, -3; 32, -4).

This discourse is very transformative regarding the prioritization of nature and in terms of the drivers that are acknowledged, as well as with regard to the type of inclusiveness this view promotes. However, it does not pay much attention to adaptive, transdisciplinary, and anticipatory governance.

3.4.3. Discourse 2: Experiencing nature

This discourse focuses on recreation and the experience of nature (33, 4; 9, 3; 2, 2). The park should enable people to enjoy the landscape and should therefore help partners to collaborate to develop win-win solutions for nature and the other functions which the park has (11, 3; 24, 3):

“Recreation must be central in the park. Yes, that too. Next to nature, next to culture, next to sport.” (Respondent 17)

In the governance of the park, different stakeholders need to be included, as well as different types of knowledge (25, 4; 10, 2). While nature could have a voice in the park and be treated as stakeholder (35, 1), it is seen as one of many stakeholders, and so groups that represent nature or have strong sustainability or biodiversity ambitions should not have a stronger voice within the park than other stakeholders (3, -2; 8, -3; 38, -3). In contrast to the first discourse, monitoring and reflection are regarded as important mechanisms within the governance of the park (40, 2; 41, 2). In this discourse, the park is not seen as a nature organization (18, -2), but as a collaborative arrangement which can aid maintaining a unique landscape for future generations (16, 3), while not specifically being focused on addressing indirect or direct drivers of biodiversity loss (31, -1; 43, -4).

In terms of adaptive, transdisciplinary, and anticipatory governance, this discourse is transformative. However, it is not focused on preserving biodiversity and lacks a focus on direct and indirect drivers of biodiversity loss, but rather on preserving the different functions of the area.

In comparison with discourse 1, it is less focused on the intrinsic value of nature and more on the instrumental and relational value of nature. However, it pays more attention to (transformative) governance of the park, especially in terms of adaptive and transdisciplinary governance.

3.4.4. Discourse 3: A new perspective

This park discourse is focused on the inclusion of nature in society (15, 4), creating a better balance between nature and economy (37; 4), while maintaining space for humans to be in connection with the landscape (33, 3). However, recreation and experiencing nature should not be central (9, -2; 39, -3). According to this discourse, the park can contribute to a nature-inclusive society in different ways:

“so the park can stimulate, contribute to awareness, I think. And also ensuring that people are valuing nature, start the discussion, and actively set the problems [nature is facing] on the agenda.” (Respondent 25)

In the park, not only should officially designated nature areas be nature-inclusive and protected, but also other types of areas, such as housing areas or nature areas without official protection statuses (23, 3; 7, -3). Time is seen as essential in two ways: 1) long-term preservation, and 2) short-term action to ensure this preservation (16, 4; 6, 2).

This discourse has strong transformative values and acknowledges the importance of addressing indirect drivers of biodiversity loss. Moreover, it is focused on anticipatory governance and acknowledges the importance of monitoring goals.

In comparison with discourse 1, this discourse is more value-oriented and less action-oriented (less focused on drivers of biodiversity loss), as well as less transformative in terms of who to include in the park. In comparison with discourse 2, it is more transformative in terms of values and drivers that are acknowledged but less transformative in terms of adaptive, transdisciplinary, and anticipatory governance.

3.4.5. Discourse 4: Spatial balance

The key distinction between this discourse and the others is that it sees economic development as one of the goals of the park (12, 2), next to experiencing nature (9, 3). While it does not see concrete nature projects as part of the responsibility of the park (30, -3), it sees a responsibility in ensuring that people also experience nature in other areas of the park (2, 2), which can aid in relieving nature from recreational pressure:

“The most important goal, which I find really clever, is strengthening nature while at the same time creating more possibilities for recreation. The idea behind that is: by

pulling people out of the nature areas and bringing new possibilities in the greater area of the park, you keep people outside of the nature area, the Natura 2000 areas.”
(Respondent 5)

Collaboration is key in this view (24, 4), it is the main role that the park should have, and this collaboration should lead to more integrated approaches (14, 4). In terms of values, this discourse is quite diverse. It does not stress the importance of a nature-inclusive society, but rather the more direct values of the park in terms of the experience that people have in nature and the potential contribution to economic development (37, 3).

While this discourse holds some transformative values, supports some drivers of biodiversity loss, and promotes an integrative approach, it is not focused on (transformative) inclusiveness, adaptive, transdisciplinary, or anticipatory governance.

This discourse is most similar to discourse 3. In comparison with discourse 3, this discourse is more focused on regulating recreation, acknowledges the potential economic contribution of the park, and is less focused on addressing broader issues and value change, such as moving towards a nature-inclusive society.

Table 6 : Overview of distinguishing statements (in bold) and characteristic statements (in italics) per discourse. Some statements are both distinguishing and characteristic (italics and bold). After the statements, the Q-sort value is shown.

	Discourse 1: Prioritizing nature	Discourse 2: Experiencing nature	Discourse 3: A new perspective	Discourse 4: Spatial balance
Values	Experiencing nature should be central to the park (9) 4	The park should enhance the connection between people and the landscape (33) 4 Experiencing nature should be central to the park (9) 3	Society should become nature-inclusive (15) 4 The park should contribute to a better balance between humans, nature, and the economy (37) 3	Experiencing nature should be central to the park (9) 3 The park should contribute to a better balance between humans, nature, and the economy (37) 3 The park should enhance the connection between people and the landscape (33) 3
		Recreation should be central to the park (39) 2	Experiencing nature should be central to the park (9) -2	The park should contribute to economic development in the region (12) 2
			Recreation should be central to the park (39) -3	

	Discourse 1: Prioritizing nature	Discourse 2: Experiencing nature	Discourse 3: A new perspective	Discourse 4: Spatial balance
Drivers	<p>Areas surrounding nature areas should be better protected (18)</p> <p>Nature cannot be protected without a transition towards sustainable agriculture (31)</p> <p>The park should try to address drivers of biodiversity loss outside of the park's borders (23)</p> <p>The park should focus on concrete nature conservation or restoration projects within protected areas (30)</p>	<p>4 Nature cannot be protected without a transition towards sustainable agriculture (31)</p> <p>3 Areas surrounding nature areas should be better protected (18)</p> <p>3 Nature conservation should mainly take place within protected areas (7)</p> <p>2 The park should inspire people to live a more sustainable lifestyle (43)</p> <p>-3 Nature conservation should mainly take place within protected areas (7)</p> <p>-4 Nature conservation should not have a negative impact on export-oriented agriculture (42)</p>	<p>3 The park should try to address drivers of biodiversity loss outside of the park's borders (23)</p> <p>-3 Nature conservation should mainly take place within protected areas (7)</p> <p>-4 Nature conservation should not have a negative impact on export-oriented agriculture (42)</p>	<p>2 The park should stimulate people to recreate outside of protected areas (2)</p> <p>-2 Nature conservation should not have a negative impact on export-oriented agriculture (42)</p> <p>-3 The park should focus on concrete nature conservation or restoration projects within protected areas (30)</p> <p>-4 Nature conservation should mainly take place within protected areas (7)</p>

	Discourse 1: Prioritizing nature	Discourse 2: Experiencing nature	Discourse 3: A new perspective	Discourse 4: Spatial balance
Integrative governance	The park should stimulate collaboration between partners (24) -1	<i>In the park, win-win results should be strived for (11)</i> 3	All park projects should be dealt with in an integrative manner (14) 2	The park should stimulate collaboration between partners (24) 4
	<i>The park should contribute to better coordination and alignment of activities in the park area (27)</i> -3	The park should stimulate collaboration between partners (24) 3	In the park, win-win results should be strived for (11) 1	All park projects should be dealt with in an integrative manner (14) 4
	In the park, win-win results should be strived for (11) -3	Nature conservation must be the point of departure for all policy processes (26) -4	The park should stimulate collaboration between partners (24) 0	<i>In the park, win-win results should be strived for (11)</i> 3
				<i>The park should contribute to better coordination and alignment of activities in the park area (27)</i> 2

	Discourse 1: Prioritizing nature	Discourse 2: Experiencing nature	Discourse 3: A new perspective	Discourse 4: Spatial balance
Inclusive governance	<p><i>Nature should have a voice as a stakeholder in the park (35)</i></p> <p>The park should give partners with ambitions for biodiversity an important say in the park (3)</p> <p>Groups or organizations that prioritize nature conservation should have the strongest voice in park projects (38)</p> <p>All stakeholders, including inhabitants, should be engaged in park projects (25)</p>	<p>All stakeholders, including inhabitants, should be engaged in park projects (25)</p> <p>Nature should have a voice as a stakeholder in the park (35)</p> <p>Partners that are financially contributing should have the strongest voice in the decision-making processes of the park (29)</p> <p>Partners that are financially contributing should have the strongest voice in the decision-making processes of the park (29)</p> <p>The park should give partners with ambitions for biodiversity an important say in the park (3)</p> <p>Groups or organizations that prioritize nature conservation should have the strongest voice in park projects (38)</p> <p>All stakeholders, including inhabitants, should be engaged in park projects (25)</p>	<p>All stakeholders, including inhabitants, should be engaged in park projects (25)</p> <p>Partners that are financially contributing should have the strongest voice in the decision-making processes of the park (29)</p> <p>Park projects should be executed by direct stakeholders (34)</p> <p>Groups or organizations that prioritize nature conservation should have the strongest voice in park projects (38)</p> <p>Groups or organizations that prioritize nature conservation should have the strongest voice in park projects (38)</p>	<p>Park projects should be executed by direct stakeholders (34)</p> <p>All stakeholders, including inhabitants, should be engaged in park projects (25)</p> <p>Groups or organizations that prioritize nature conservation should have the strongest voice in park projects (38)</p> <p>The position of groups or organizations with outspoken sustainability initiatives should be strengthened (8)</p>
	3	4	1	1
	2	1	-2	0
	1	0	-3	-3
	-2	-2	-3	-3
	-2	-3	-3	-3
	-3	-3	-3	-3

	Discourse 1: Prioritizing nature	Discourse 2: Experiencing nature	Discourse 3: A new perspective	Discourse 4: Spatial balance
Adaptive governance		<p>The progress of reaching park goals should be monitored (40)</p> <p>Continuous reflection is important to reach the goals of the park (41)</p>	<p>The progress of reaching park goals should be monitored (40)</p>	
Transdisciplinary governance	<p>Social processes, like the relationship between humans and nature, should also be studied in the park (4)</p> <p>Apart from scientific knowledge, other types of knowledge and experiences should be taken into account in the development of policies (1)</p>	<p>Apart from scientific knowledge, other types of knowledge and experiences should be taken into account in the development of policies (1)</p>		<p>Social processes, like the relationship between humans and nature, should also be studied in the park (4)</p>

	Discourse 1: Prioritizing nature	Discourse 2: Experiencing nature	Discourse 3: A new perspective	Discourse 4: Spatial balance
Anticipatory governance	It is important to take swift action (6)	Future generations should be taken into account in case of new developments in the park (16)	Future generations should be taken into account in case of new developments in the park (16)	New developments should be given free rein in the park (32)
	-3	3	4	-4
	It is important to take swift action (6)	It is important to invest in taking no-regret measures within the park (21)	It is important to take swift action (6)	
	-4	1	2	
	<i>New developments should be given free rein in the park (32)</i>	<i>It is important to take swift action (6)</i>	<i>New developments should be given free rein in the park (32)</i>	
	-3	-3	-4	
	<i>New developments should be given free rein in the park (32)</i>	<i>New developments should be given free rein in the park (32)</i>		
	-3	-3		

3.5. Discussion

In this discussion, we will reflect on the transformative potential of landscape-oriented partnerships and in particular partnership-based NPs as a collaborative governance arrangement for biodiversity conservation, by looking at the discourses on the NP 3.0 (1), the role of this type of park in transformative change and governance (2), and the coherence among the discourses (3).

3.5.1. Four discourses and National Park 3.0

The partnership National Park Hollandse Duinen aims to be more than a ‘classic’ national park. The founders elaborated seven principles for an ‘area-wide and human-inclusive vision on nature conservation’ in their conceptualization of national parks in Leltz *et al.* (2022). For them, a National Park 3.0 has a ‘nature core’ with land use protection (like in 1.0/2.0 concepts) but is rooted in a re-evaluation of the entangled human-nature relationships and infrastructures. A National Park 3.0 should stimulate new synergies between nature and people. Moreover, they conceive a National Park 3.0 as a ‘platform’ for addressing societal challenges on a regional scale by inhabitants, companies, and governments that contribute to an increased connection with and knowledge of the landscape they inhabit.

In our study, we found four different discourses among the partners of this NP. Though we hypothesized that a diversity of discourses would indicate a lack of alignment with park ideals, we do see a common feature among the discourses that indicates alignment with the National Park 3.0 concept: the shared focus on the landscape. All discourses entail the wish to both protect and be able to experience the landscape. Thus, the landscape seems to bind all partners together, which is part of the main premise of why landscape-oriented partnerships could be effective (Meijer *et al.*, 2021).

However, we also observed that the partners have different ideas on how to achieve the protection of nature and the landscape. The dissensus among the partner discourses is mainly on *how* they see human-nature relationships. For example, how to protect and enjoy the landscape, which drivers of biodiversity loss can and should be addressed, and who should be engaged in the management of and research on the park. Hence, the focus on a broader conceptualization of the landscape created a different type of park, where nature conservation is not the main topic in park platform meetings. These are often issues like how to manage

increased recreation (from a conservation and recreational perspective) or how to increase the sustainability of golf courses located in the park.

Hence, we can clearly observe that the National Park 3.0 concept differs from 'classic' national parks based on the idea of separating nature and humans and thereby protecting nature. This reflects the influence of broader shifts in regulatory approaches in conservation and the emergence of new decentralized public-private arrangements in the governance of national parks (e.g. Janssen, 2009; Kubo and Supriyanto, 2010). We can also see that broadening the landscape and the partners involved may enable new sources of legitimacy and support, but are difficult to reconcile (Arpin and Cosson, 2021).

Interestingly, statements that dealt with addressing indirect drivers related to broader sustainability, such as influencing policies or value chains, were scored very low in all discourses. Thus, a clear link with 'concrete' biodiversity/nature seems to remain central to the NP 3.0, which might limit its potential to address indirect drivers of biodiversity loss, and hence contribute to transformative change, a point to which we turn next.

3.5.2. Transformative governance

According to transformative governance theory, in order to have transformative potential, it is important to implement all transformative governance approaches in conjunction as well as address indirect drivers and values (Visseren-Hamakers *et al.*, 2021; Visseren-Hamakers and Kok, 2022). When looking at how the discourses scored statements about park governance, we saw that all discourses embrace *some* of the elements of transformative change and governance, but none of the discourses embrace them *all*. Thus, our findings show that rather than being different in terms of transformative potential (transformative, reformist, status quo, see Table 4 and 5), the discourses differed concerning *which element* of transformative governance they saw a role for the park. These findings resonate with observations on landscape-oriented partnerships worldwide (**chapter 2**, de Koning *et al.*, 2023) that most often embrace only certain approaches (mainly integrative and inclusive governance) and not always in a fully transformative manner. Figure 17 provides a visual representation of which transformative elements were explicitly supported by which discourses.

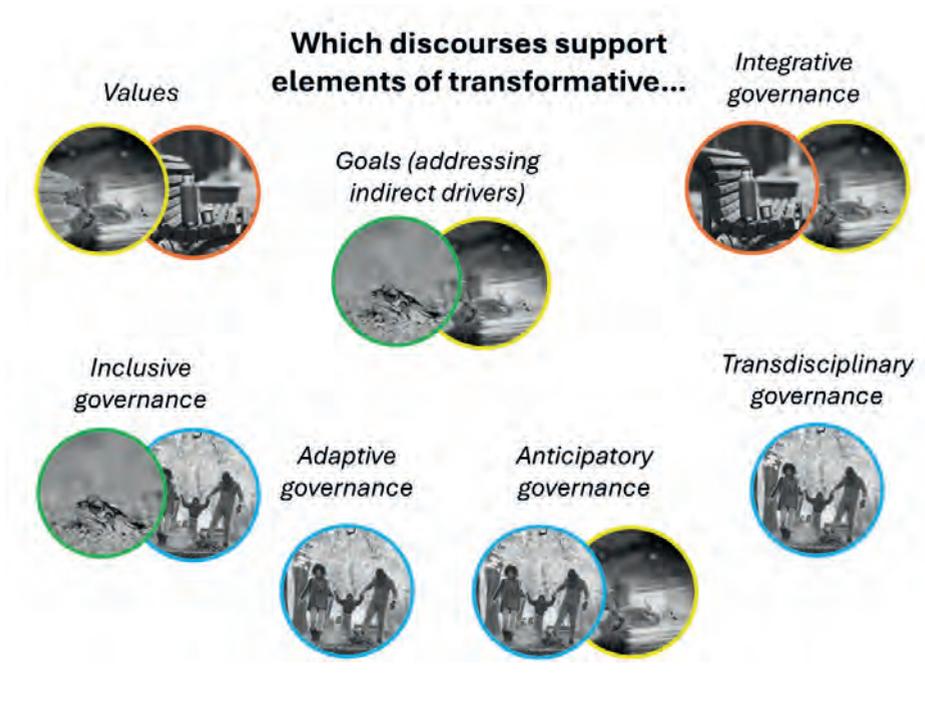


Figure 17: An overview of which discourses have at least one positively scored (>+1) characterizing statement that is part of the ideal type transformative discourse. Green=Discourse 1: Prioritizing nature; Blue=Discourse 2: Experiencing nature; Yellow=Discourse 3: A new perspective; and Brown=Discourse 4: Spatial balance.

Our study shows that partners perceive many aspects put forward by the literature on transformative governance not as part of the role of the partnership (i.e., not a goal of their partnership), or not fitting a partnership approach (i.e., beyond the capacity of their partnership). For example, apart from discourse 1 *Prioritizing nature*, all discourses articulate that the goal of the park is to connect different partners with different interests and should therefore not necessarily emancipate or prioritize. In a landscape-oriented partnership, everybody with a stake in the landscape is welcome, according to most partners. This makes such partnerships vulnerable to reinforcing the status quo rather than contributing to transformative change if existing power relations are not considered or actively challenged.

A case study on transformative governance in the Finnish plastic sector confirms the idea that some of the transformative governance approaches might be difficult to implement in a collaborative setting (Sundqvist and Åkerman, 2024). Innovative, fundamentally different approaches to governance, such as the transformative governance approaches, will inevitably harm existing, unsustainable interests.

According to Sundqvist and Åkerman (2024) there is especially a lack of anticipatory governance in collaborative approaches to provide (transformative) directionality. In our case, we also observe a lack of support for anticipatory governance, as well as a lack of a clear vision of how the park can contribute to transformative change. While most partners support the vision of the park, some also criticize the ‘something for all’ nature of the vision, which does not aid in directing the park’s resources towards a well-defined, transformative goal. Moreover, reflecting on the goals of the park (as part of transformative adaptive governance), is not a priority in three of the four discourses (only in 2 *Experiencing nature*).

3.5.3. Towards one transformative discourse?

Based on collaborative governance theory, we assumed that sharing a discourse, from the onset or developed through collaborative governance, is an important condition for successful collaboration. In our case, we found remarkably little consensus. As discussed in the previous section, the discourses differ substantially in which governance approach they support. This support for certain approaches goes hand in hand with a strong disapproval of other approaches. For example, while discourse 3 *A new perspective* supports all statements about transformative values, it strongly disagrees with some of the statements from transformative inclusive governance.

If, for the sake of being collaborative, the aim of the partnership would be to find middle ground, this would mean that partners supporting different elements of a transformative discourse should all move towards a more reformist discourse. In other words, by searching for a compromise, the transformative potential and ambitions will be lowered (Dupuis *et al.*, 2023). An alternative would be to focus on one of the discourses, thereby accepting its more and less transformative elements, but this could lead to a decrease in partner support among partners that strongly agree with its transformative elements. In practice, this could already be the case. Q-methodology is apt at finding different and marginalized voices, but this does not mean that all these voices are articulated, heard, or influencing the park process. Moreover, partners can also support elements they do not agree with, because of other interests or considerations. The potential to move towards a coherent, shared, and fully transformative discourse seems limited due to the opposing views on transformative governance approaches.

3.6. Conclusion

In this paper, we have asked the question of whether landscape-oriented partnerships, and more specifically NP 3.0s, are useful governance instruments for transformative change. While the NP 3.0 deviates from conventional approaches by centering on the landscape and the different functions of the park, there are different discourses on how this could contribute to conservation and what kind of governance is needed for that. Perceived tensions between different elements of transformative governance are likely to play a role in this, as well as tensions between perceptions of landscape-oriented partnerships and transformative governance. These perceived tensions make moving towards a shared, coherent transformative discourse difficult, and this will likely lead to a more reformist approach.

Our results, in combination with the literature review, show that landscape-oriented partnerships could be useful governance arrangements to implement specific elements of transformative governance (e.g. integrative governance), but generally remain focused on challenges within the landscape rather than addressing indirect drivers outside of the landscape which do not have a direct impact on the biodiversity on the ground. Thus, they are not genuinely transformative. The variety in discourses, and especially their difference in terms of preferred governance approaches, indicate that externally directed collaborative governance processes such as the National Park might lack a common basis for transformative action, and while ‘the landscape’ can be a boundary concept to rally around, this might not be sufficient to truly contribute to transformative change. More in general, our analysis shows that the different elements of a transformative discourse are not ‘naturally’ aligned: supporting one element does not lead to the automatic support of another element. The (theoretical) understanding and conceptualization of how the different elements relate and reinforce each other is thus not always shared in practice.

Part 2

Conditions for change



4 Landscape discourses and rural transformations

Insights from the Dutch Dune and Flower Bulb Region

Abstract

Rural landscapes are facing a loss of biodiversity. To deal with this challenge, landscape governance is seen as an alternative and addition to sectoral policies and a potential way of realizing transformative change for biodiversity. To study transformative change in the Bulb Region, the Netherlands, this study uses a discursive institutional perspective. Different methods were used, including 50 interviews, participant observation, and document analysis. The structuration and institutionalization of three competing landscape discourses were analyzed: a hegemonic discourse rejecting any changes in bulb farming; an emerging discourse aiming to enhance sustainability through innovation; and an unstructured discourse questioning the sustainability of bulb farming. The paper shows that the emerging sustainability discourse strengthens the hegemonic discourse by providing an action repertoire for farmers to deal with changing societal demands, while not questioning the hegemonic view on the landscape. Moreover, an institutionalized landscape discourse can be very stable if discursive (relation between naturalized landscape perspectives, identity, and the articulated economic interests) and non-discursive factors (natural-spatial conditions, structure of agricultural sector, embeddedness in international trade) are strongly intertwined, leaving little room for alternative discourses. The sustainability discourse was induced by changes outside the Bulb Region (e.g., legislation), thus raising the question whether landscapes are the appropriate level to expect the initiation of transformative change. For rural transformations to come about, solely relying on policies at the landscape level is not sensible. A mix of policies at both the landscape and higher levels offers more perspective for transformative change.

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4.1. Introduction

While the focus of conservationists has historically been on pristine, natural landscapes the importance of rural areas for biodiversity is becoming more and more clear. For example, in the European Union 50% of species are dependent on agricultural habitats (EU, 2023). At the same time, unsustainable agriculture is one of the main drivers of biodiversity loss (Benton *et al.*, 2021). Thus, a change

towards sustainable agriculture is perceived as an essential element of transformative change, which is deemed necessary to bend the curve of biodiversity loss (Leclère *et al.*, 2020). To understand and realize transformative change, some scientists and policymakers argue that focusing on landscapes is key, as the landscape is the level at which multi-level changes materialize and the impact on biodiversity becomes visible (Meijer *et al.*, 2021). A landscape is not merely a delineated geographical space, but is a place formed by the interactions between social and natural-spatial conditions (Görg, 2007), in which different species live and interact. Landscape governance can therefore be an addition or alternative to sectoral or national policies, which have not (yet) led to the desired changes.

When turning to landscape governance for realizing transformative change, we must understand its potential to initiate, foster and/or implement transformative changes. While the expectations for landscape-oriented approaches are high, they do not always entail clear transformative intents (**chapter 2**, de Koning *et al.*, 2023). This severely hampers the understanding of the contribution of these partnerships to transformative change. Thus, the assumptions underpinning landscape governance could be critical to their (pro-active) role in transformations.

While there are many studies on agricultural discourses in general (e.g., Erjavec and Erjavec, 2009; Hermans *et al.*, 2010; McNeill, 2019), there are only some studies on landscape discourses (Quetier *et al.*, 2010; Aliste, Folchi and Núñez, 2018). Landscape discourses hold the potential power to in- or exclude certain futures, thus influencing the possibility for transformative change (Gordon, Davila and Riedy, 2022). While this holds for other types of discourses as well, I argue that in landscape governance, the discourse on the landscape itself can be an important factor inducing or inhibiting (transformative) change. Landscape discourses entail many things, such as people's understanding of the social-ecological dynamics (e.g., is the landscape vulnerable or resilient) and functions of the landscape (de Koning, Steins and Toonen, 2020). Especially in the case of landscape governance, any proposed changes will directly affect the actors involved, who need to be willing and able to accept these changes and fit them within their interpretation of the landscape. Thus, if landscape actors involved in governance are given responsibility for realizing rural transformations, not only do the discourses on agriculture count, but also the discourses on the landscape:

“Interpretations of the landscape, and indeed the landscape itself, reflect a particular approach to organizing and experiencing the visual order of geographical objects in the territory. Thus, landscape contributes to the naturalization and normalization of

social relations with the established territorial order” (p. 12, Nogué, 2007; translated by Aliste, Folchi and Núñez, 2018 (p. 2)).

The literature on transformative discourses is critical about the material impact they are having so far. For example, discourses that are regarded as transformative, often rather lead to reformist changes within the existing logic of the hegemonic discourse and are used to justify a variety of different policies and interventions (Narayanan and Adams, 2017; Blythe *et al.*, 2018). Moreover, ‘transformative discourses’ are often apolitical, thus not acknowledging the role of power in transformations, both as a means and as an end (Avelino, 2017; Blythe *et al.*, 2018). However, on a positive note, Späth and Rohrer (2010) have shown that transformative discourses on a regional level can function as a ‘guiding vision’ and translate higher-level discourses into concrete, locally-tailored solutions. To have a long-lasting impact that influences the perception and governance of the landscape, these discourses must become institutionalized. This paper, therefore, builds on discursive institutionalism (Hajer, 1995; Schmidt, 2010) to study the role of landscape discourses in landscape governance and rural transformations.

As a case study, I have chosen a particular landscape in the Netherlands: the Dutch Dune and Flower Bulb Region. This landscape consists of dunes, beaches, estates, and agricultural lands in which flower bulbs are produced. It represents a deviant case for understanding transformations (Flyvbjerg, 2006). In contrast to other agricultural landscapes or sectors, such as dairy farming, there have been no clear programs, projects, or collectives, neither on a national level nor within the landscape, that have tried to transform this sector. Another distinct element is that farmers within this landscape produce flowers instead of food. Currently, many studies on rural transformations have a strong food orientation, as they are commonly referred to as ‘food system transformations’ (Webb *et al.*, 2020; Contesse *et al.*, 2023; Kelinsky-Jones, Niewolny and Stephenson, 2023). At the same time, just as the case with bulbs and the Bulb Region (Tiktak *et al.*, 2019), many non-food sectors are known for high pesticide use, such as cotton (Liu and Huang, 2013; Williams, 2020), other floriculture crops (Pereira *et al.*, 2021; Endalew, Gebrehiwot and Dessie, 2022), and plantation forestry (Rolando *et al.*, 2016; Barroso *et al.*, 2022). The purpose of this paper is threefold: 1) to study the structuration and institutionalization of landscape discourses, 2) to examine the role of landscape discourses in rural transformations, and 3) to critically reflect on landscapes as a suitable level for transformative change and governance. To answer these research questions, both discursive and non-discursive factors (e.g., natural spatial conditions of the landscape) are considered, thereby adding a material element to general discourse analyses.

4.2. Theoretical framework

4.2.1. Transformative change

In my research, I regard the concepts of transformations, transformative change, and transitions as overlapping but complementary. Linnér and Wibeck (2019) distinguish, for example, between macro transformations (changes on a societal level) and particular transformations (changes in subsystems of societies, such as the food system). Their definition of particular transformations is close to the definition of transitions in transition theory by focusing on what they call ‘regimes’ (Geels, 2002; Geels and Schot, 2007). Transformations come about by changes in several subsystems or regimes. Transitions can therefore be seen as part of society-wide transformations (Visseren-Hamakers *et al.*, 2022).

In this paper, I will use the concept of transformative change, which can include changes in subsystems (transitions, particular transformations) and on the societal level (macro or society-wide transformations). I thereby follow the conceptualization of de Koning *et al.* (2023) (**chapter 2**), who regard transformative change as a process happening at different administrative levels and geographical scales which leads to changes in the indirect drivers, i.e., underlying causes, of biodiversity loss. These indirect drivers can include abstract drivers such as values, but also more concrete drivers such as production systems (IPBES, 2019). I complement this definition with the notion that these changes should, in the end, lead to a ‘fundamentally different system’ (Evans *et al.*, 2023). Analyzing transformative change is difficult, as it is an all-encompassing and complex concept (Feola, 2015). I chose to focus on the structuration and institutionalization of transformative landscape discourses because I see this as an important prerequisite for transformative change in landscapes.

4.2.2. Discourses and landscapes

Dryzek (2013) defines discourses as “*a shared way of apprehending the world*” (p. 5). In this paper, I am interested in rural landscapes and focus on discourses on the landscape and agriculture in general. According to Görg (2007), landscapes consist of a material reality and the social constructions of that material reality. The discursive/ideational and material aspects are interconnected: people, but also plants and non-human animals, physically change the landscape through their activities, which, in turn, may impact the configuration of discourses on the landscape. In the governance of the landscape, these social constructions play an

important role as they define how responsibilities are distributed and collaboration should take place (see politics of scale literature, e.g., Brown and Purcell, 2005; Cash *et al.*, 2006). They thus include both substantive elements (such as the definitions of nature, agriculture, and the delineation of the landscape) as well as the preferred solutions or governance approaches (Liefferink, 2006; Kaufmann and Wiering, 2017). In studying landscape discourses, I therefore focus on (1) the definition and delineation of a landscape, the perspectives on agriculture (in this case bulb farming) and biodiversity, (2) the problems in the landscape that the discourses identify, and (3) the solutions that the discourses propose and which actors or organizations should be responsible for solving these problems. This study is aimed at understanding dynamics within a landscape and its governance, and therefore focuses on the landscape discourses present among governance actors in the landscape. Therefore, this study does not focus on non-landscape-specific discourses, such as discourses on national environmental policies. A transformative discourse, as follows from the definition in the previous section, concentrates on changing both direct and indirect drivers of the identified problems. Moreover, a transformative discourse acknowledges the different values of nature, including intrinsic, relational, and instrumental values (Leventon, Duşu and Horcea-Milcu, 2021; IPBES, 2022).

4.2.3. Institutionalization

To have (material) impact, discourses need to become institutionalized. Once institutionalized, discourses can have material consequences for the landscape. In this paper, I define institutions as “*formal or informal procedures, routines, norms and conventions embedded in the organizational structure*” (Hall and Taylor, 1996). The institutionalization of discourses occurs through two steps: discourse structuration and institutionalization (Hajer, 2006). Structuration occurs when a discourse starts to determine the way a group, sector, or organization perceives and understands the world. Institutionalization occurs when a discourse culminates in substantively changed or new formal or informal rules, roles, codes of conduct, norms, and symbols (Hajer, 2006; Wiering and Arts, 2006). After being structured, discourses can become hegemonic (Laclau and Mouffe, 2014), which means that they represent the dominant way of interpreting the landscape. I consider landscape discourses as transformative if these discourses are fundamentally different from hegemonic, unsustainable discourses, for example, by acknowledging and addressing indirect drivers of biodiversity loss or representing different values of nature.

4.2.4. Factors influencing the institutionalization of transformative discourses

The literature on discursive institutionalism (Hajer, 1995; Phillips, Lawrence and Hardy, 2004; Schmidt, 2008a) describes different factors that may influence the structuration and institutionalization of discourses. In this research, I will study these factors empirically, focusing on (transformative) landscape discourses. As follows from landscape governance theory (Görg, 2007), non-discursive factors such as materiality (e.g. the soil or biodiversity) play a role in the social constructions of the landscape, hence, also in landscape discourses. Therefore, in addition to the following discursive factors, I will also include non-discursive factors in the analysis.

The first factor concerns the characteristics of the discourse itself, including its internal coherence, its consistency or linkage with existing discourses (e.g. alignment and synergies) and the existence of opposing discourses that lead to discursive struggles (Hajer, 1995; Boonstra, 2004; Phillips, Lawrence and Hardy, 2004; Kaufmann and Wiering, 2021). Alignment with higher-level discourses, especially when they are institutionalized via policies or regulations, can create very stable discourses and contribute to the legitimacy of the actors that reproduce these (Simoens, Fuenfschilling and Leipold, 2022). In the case of landscape discourses, alignment with national discourses could be an important factor influencing discourse structuration and eventual institutionalization. Additionally, the action repertoire of the landscape discourse could be important. Action repertoires in a discourse provide clear answers on how the ideas can be put into practice and how barriers (such as path dependency or other institutional constraints) can be overcome. In social movement theory, action frames are seen as key to guiding the action of groups (Benford and Snow, 2000), and I assume that this is also the case for less distinct, clearly organized groups, such as farmers or a policy domain such as Dutch agriculture. The impact of action repertoires can relate to the landscape discourse itself in terms of 'practical usability', but also to external discourses that provide clear transformative change pathways which can be taken up by or lead to the structuration of new landscape discourses.

Second, power relations and the position of actors can play an important role. Discourses can be so entrenched with power positions of certain actors that actors will actively reproduce these discourses to maintain these positions (Simoens, Fuenfschilling and Leipold, 2022). However, while these status quo agents can stabilize hegemonic and unsustainable discourses, change agents can introduce new discourses. The success of actors in either inhibiting or creating change

depends on their status and credibility (e.g. researchers, politicians, public figures), their resources and power (including skills, networks, finances, knowledge, etc.), and the strategies that they use (e.g. coalition building, exclusion strategies, and venue shopping) (Baumgartner and Jones, 1993; Hajer, 1995; True *et al.*, 2007; Leipold and Winkel, 2016, 2017; Simoens, Fuenfschilling and Leipold, 2022). To understand how transformative discourses institutionalize, I will therefore look at whether and how (powerful) actors reproduce or introduce landscape discourses to provide legitimacy to the proposed new ways of action or current practices.

Third, changes in political or economic systems, or external ‘shocks’, can lead to dislocation events, in which the hegemonic discourse no longer matches reality (van den Brink, 2009; Kaufmann, Mees, *et al.*, 2016). This also relates to the occurrence of less sudden but slower changes, for example, an increasing discontent with current policies due to a lack of progression or results (Torfing, 2009). This, in turn, opens up space for discursive struggles, and thus the structuration of new or other discourses in this context (Hajer and Versteeg, 2005). However, shock events can also lead to the stabilization of hegemonic discourses, dependent on how actors (status quo or change agents) are able to exploit and frame these shock events (Rosenthal and t’ Hart, 2012; Boin, Stern and Sundelius, 2016; Kaufmann, Lewandowski, *et al.*, 2016). Changes in or outside of the landscape impacting the social and natural-spatial conditions could therefore lead to the stabilization of current landscape discourses or the introduction of new ones.

Fourth, discourse institutionalization is also influenced by the governance setting. A homogeneous governance system, in which discourses, actors, rules, and resources are aligned, is more stable than a diverse and heterogeneous one (Blowers and Leroy, 1996; Mahoney and Thelen, 2009; Kaufmann, Mees, *et al.*, 2016). Within landscapes, a strong, shared, and already institutionalized discourse makes the institutionalization of alternative (transformative) landscape discourses less likely. Especially if these discourses are in line with (or influenced by) other governance levels, for example, through certain (national) rules and legislation which farmers must abide by, but also contracts and market conventions with other private parties. This stability is strengthened by the process of path dependency, which concerns self-reinforcing mechanisms such as fixed costs, learning effects, coordination effects, and adaptive expectations (North, 1990; Wiering, Lieferrink and Crabbé, 2018). Fixed costs can refer to investments that are already made, and which will lose their use when the course of action is changed, therefore, they provide an incentive to maintain the status quo (Wiering, Lieferrink and Crabbé, 2018). Learning effects can relate to the fact that high prevalence of a product (e.g.,

pesticide), technology (e.g., tractors) or practice (e.g., plowing) will also lead to increased know-how, which will make the shift to other practices (e.g., no tillage agriculture) less likely (ibid.). Coordination effects are directly related to governance structures, for example, when nature and agriculture are governed by different ministerial departments, this is less likely to lead to the development of nature-inclusive agricultural policies (ibid.) Adaptive expectations refer to expectations of the public, who are accustomed to the current path and might not see a reason for change if they have not experienced any problems (ibid.).

4.3. Methods

4.3.1. Case-study area: the Dune and Flower Bulb Region (Duin- en Bollenstreek)

The Dune and Flower Bulb Region is located between Amsterdam and Leiden in the province of Zuid-Holland, the Netherlands (see Figure 18). Although it is squeezed between big cities, the people in the region regard themselves as a rural community, with several small villages with unique identities. In this region, flower bulbs such as tulips and daffodils are produced on fields adjacent to the coastal dunes. In total, there are 137 flower bulb companies farming on 2358,7 hectares. In 2018, net exports of bulbs in the Netherlands represented 724 million euros (Dolman, Jukema and Ramaekers, 2019). The flower fields attract many foreign and domestic visitors in springtime, the famous tulip garden ‘de Keukenhof’ already receives 1,4 million visitors in the two months that it is open to visitors (Bultink, 2022). Though the influx of new citizens is increasing, there is still a large community of people with deep roots in the region, of which most people are connected to bulb farming. They have worked themselves in bulb farming or have family and friends doing so. Bulb farming is perceived as an important economic activity in the region, as well as part of Dutch national heritage and identity. During my field work, actors focused on the agricultural part of the region (the Bulb Region), thereby inherently defining the landscape as a rural landscape. In the remainder of the article, ‘Bulb Region’ will be used to refer to the Dune and Flower Bulb Region.

Although popular among visitors, bulb farming is an agricultural practice that can have a profound impact on the environment (Rossing, Meynard and van Ittersum, 1997; Duineveld and van Assche, 2011; van der Salm *et al.*, 2020) and therefore on the biodiversity of the area. Due to its non-food status, restrictions on pesticide use are less strict (Pereira *et al.*, 2021). Moreover, most bulbs are exported, and the

phytosanitary regulations of importing countries demand a zero-tolerance of pests and diseases (ibid.). Therefore, the average amount of pesticide use in Dutch bulb farming is high, on average 78 kg per hectare per year (Agrimatie, 2022a). Another issue is the small size of the sector, which makes it difficult to develop sector-specific solutions (e.g., finance EU admittance procedures for green and low-risk alternatives). Grey partridge (*Perdix perdix*) is one of the iconic species of the area that has declined rapidly in the Bulb Region over the last 20 years due to increased agricultural intensification and efficiency (Van Dam, 2020). Within the region, high levels of phosphate are measured in surface water, leading to lower water quality.

In the 90s, the region was designated for urban development. To provide for the increased demand for housing near large cities such as The Hague, Rotterdam, and Amsterdam, a new city was designed, the 'bulb city' (Duineveld and Beunen, 2010; Duineveld and van Assche, 2011). As a response, farmers and nature conservationists formed a coalition to protect the bulb fields from housing development, resulting in the Geestgrond partnership. For the conservationists, this was a way to save the birds living on these fields, which they renamed as 'bulb birds' (bollenvogels). The resistance against the 'bulb city' resulted in 1996 in the 'Pact of Teylingen', which aimed to maintain the open and agricultural nature of the landscape (Duineveld & Beunen, 2010; Duineveld & van Assche, 2011).

The 'Pact' became institutionalized through the Intergemeentelijke Structuurvisie (ISG). This policy is a shared policy between 5 municipalities and includes spatial planning rules prohibiting the use of suitable bulb fields for other purposes. This implies that on designated bulb fields, you are not allowed to employ other types of (farming) activities. It came into force in 2010, is executed by the Greenport Ontwikkelingsmaatschappij and is currently being evaluated (2022-2023). Additionally, they established a partnership between the municipalities and the bulb sectors, called Stichting Greenport Duin- en Bollenstreek, with the aim of supporting the agro-industrial complex of the region through knowledge development and transfers and the establishment of networks in the region. Currently, there is a strong pressure on bulb farmers to reduce pesticide use, as new EU policies demand a 50% reduction of pesticide use in 2030 (EU, 2022b)³.

3. The proposed regulation has been rejected by the European Parliament on the 22th of November (2023)

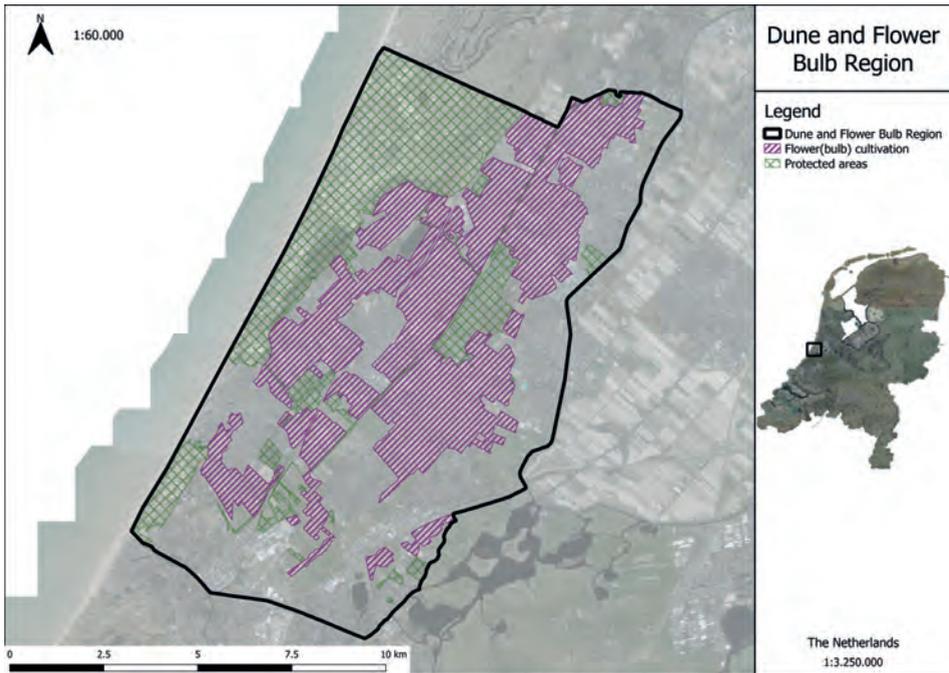


Figure 18: Map of the Dune and Flower Bulb Region. The line indicates the region borders, the diagonally lined areas indicate flower (bulb) cultivation areas, and the crossed areas indicate protected areas (e.g., Natura 2000 areas).

4.3.2. Data collection and analysis

In this study, I chose an interpretive approach (Yanow and Schwartz-Shea, 2006) to study discursive developments and interactions, following the methodological principles of Argumentative Discourse Analysis (Hajer, 2006). The study was performed within the context of a living lab, in which a group of scientists (ecologists, agronomists, and social scientists), together with stakeholders, try to conduct transdisciplinary research on biodiversity restoration in rural landscapes. Therefore, the data was gathered in an iterative way and from a variety of sources. All source data was Dutch and was analyzed in its original form. For the use of quotes, sentences have been translated into English by the author.

Because of the transdisciplinary approach of the living lab, throughout the research, 23 exploratory, unstructured interviews were conducted with farmers, policymakers, farming advocacy organizations, cultural heritage groups, and research institutes. In these interviews, the different stakeholders were explored, as well as initiatives for biodiversity and sustainable agriculture, visions on the landscape and the recent history. These interviews were not recorded, but notes

were taken. Apart from providing first insights into the region, these unstructured interviews contributed to the establishment of a rapport with stakeholders (Russel Bernard, 2011; Brinkmann, 2020; Swain and Spire, 2020).

Based on the first exploratory interviews, 28 in-depth, semi-structured interviews were planned, which were all recorded and transcribed. Participants were selected based on their affiliation with the governance of the landscape, and/or involvement in biodiversity restoration or bulb farming. Like the exploratory interviews, the in-depth interviews focused on agriculture, biodiversity, and landscape. Moreover, participant observation in 23 formal meetings directed at farmers and/or citizens in the region was conducted. These meetings included, for example, spatial planning consultation evenings, farmer gatherings, and presentations about nature-inclusive farming or landscape element restoration. This allowed me to study discursive interactions in practice. Also, it provided a better understanding of possible landscape discourses articulated by people who did not have a more formal role in landscape governance. Lastly, as part of the living lab, two evenings about biodiversity and sustainable bulb farming were organized by the research team, followed by a workshop for farmers. Table 7 represents a short overview of interview respondents. For a complete overview of in-depth and exploratory interviews and observed meetings, see Table A and B in the appendix. In the results, I use pseudonyms (letter + number) to refer to respondents (see Table 7). To triangulate the interview and participant observation data and study institutionalization of the discourses, I selected nine documents discussing bulb farming, the Bulb Region, and biodiversity, of which seven were mentioned during the interviews, and two were mentioned during observed meetings (see Table C in the appendix).

Table 7 : Overview of respondents.

Organization type	Pseudonym	Number of respondents of in-depth and exploratory interviews
Agricultural company	A	2
Cultural heritage group	C	5
Farm (bulb)	BF	6
Farm (other)	OF	6
Farming advocacy organization	FA	5
Government	G	14
Nature organization	N	10
Research institute	R	2
Total		50

To study the different landscape discourses, I analyzed the transcripts, interview and observation notes, and documents using Atlas.ti. The initial coding was done deductively and focused on three main themes: (1) the definition of the landscape, sustainable agriculture, and biodiversity, (2) the problems that actors identify and (3) the type of solutions they propose (including task and responsibilities and theory of changes behind the proposed solutions) (see Table E in appendix). Based on this initial analysis, I looked at recurrent themes in the data, which resulted in three distinct discourses. This analysis was followed by an evaluation of the transformative character of the discourses based on the type of drivers of biodiversity loss they include in their problem definition and/or proposed solutions. The analysis of the different factors influencing structuration and institutionalization is based on the interviews and observation notes.

After the abovementioned analysis, I wanted to study the similarities between (elements) of the landscape discourses and national discourses. In consultation with experts on Dutch rural policies and based on their representation of powerful

actors in Dutch agriculture (e.g., ministry or farmers advocacy organization) or their representation of alternative visions (e.g., coalition of ‘good farmers’), I have chosen eleven documents representing different discourses on agriculture in the Netherlands (see Table D in appendix).

4.4. Results

4.4.1. Discourses on the landscape

This section describes the three different landscape discourses, focusing on the differences in landscape definitions, problems identified, solutions proposed, and their institutionalization (see Figure 19 for a graphical overview of the discourses). For an overview of the different respondents and documents representative of the different discourses, see Table F in the appendix. As the description of the case study shows, there has been a bulb city discourse in the past. However, the bulb city discourse is not found anymore as a discourse in its own right, reproduced in governance, but it is an issue being addressed by the three landscape discourses found in this study.

An open and agricultural landscape

Landscape definition

The first discourse is the currently hegemonic *open and agricultural* landscape discourse, in which bulb production is regarded as protecting the landscape. Bulb fields are the Bulb Region, “*without bulbs, there will be no landscape*” (bulb farmer, observation notes). The essence of the landscape is its openness, and bulb farming ensures this openness:

“You should consider that from a landscape perspective, sectors like horticulture, livestock, arable farming, and bulb farmers are the stewards of the open landscape. You can throw all of that overboard, but what do you get then? In that case, you need a really good spatial concept to maintain the openness of your landscape.” (N6)

Therefore, different actors (including farmers, civil servants, nature organizations employees, and cultural heritage groups), believe that to protect the landscape bulb farmers should be able to continue with their current practices. The open landscape is prioritized, even though some actors acknowledge problems regarding the use of pesticides. Moreover, these actors stress that there have already been major improvements within the sector in terms of sustainability. Another central

element is the connection between landscape and economy, which comes back in regional policy documents (Greenport Duin- en Bollenstreek, 2016) but also in national policies (VROM *et al.*, 2004) in which the landscape is defined as a Greenport, which are areas that the government perceives as important “*from an international economic perspective*”(VROM *et al.*, 2004). Regarding biodiversity, nature organizations within this discourse use a collaborative strategy and focus on strengthening biodiversity related to the cultural landscape of bulb farming, such as bulb birds, via measures that do not impact conventional farm operations (e.g., hedges). Actors representing this discourse are passionate about conserving these species within the current landscape configuration and focus on the relational value of nature.

Problems

Following from the landscape definition, the main threats to the landscape are urban development and ‘cluttering’. The fear for urbanization is present since the plans in the 90s to develop a bulb city, and even though that has not happened due to regional resistance, the fear is renewed due to the current housing crisis in the Netherlands, and new policies to build new houses in all provinces. While the spatial policy of the Intergemeentelijke Structuurvisie (ISG) developed out of this discourse, people are currently critical about it, because part of the policy includes building detached, expensive houses to finance the removal of old sheds or buildings (Rekenkamercommissie Teylingen, 2020). According to the people within this discourse, this policy currently contributes to the ‘cluttering’ of the landscape.

Solutions

When asked about sustainable bulb farming, market demand is referred to as the prerequisite for sustainable bulb farming, and consumers are thus blamed for the inability of bulb farmers to become sustainable. In line with neo-liberal discourses, the idea is that farmers just follow market demand (Erjavec and Erjavec, 2009). When discussing this with farmers during the workshop, the market appeared to be seen as something unchangeable, ‘natural’, which cannot be steered. Governmental intervention in bulb farming is undesirable and should be kept to a minimum:

“I have created the boundaries [of sustainability programs of the Greenport]. Then I have stated: if there is anything I can do, please invite us. So, I try to steer as little as possible. Especially if that would only be counterproductive” (G7)

Institutionalization

The discourse described here was structured in the 90s and is dominant among powerful actors, such as civil servants and politicians. Although it is currently criticizing elements of the ISG policy, its main elements are still strongly institutionalized via the ISG policy and the partnership between farmers and conservationists (Geestgrond). Moreover, during recent actor meetings about the evaluation of the ISG policy and the new Dutch National Program for Rural Areas (NPLG) (April 2023), this discourse was voiced by many actors who were present and will probably have a strong influence on these policies. The next discourse was also represented during these meetings, but less dominantly so.

An economically vital and sustainable landscape

Landscape definition

The *economically vital and sustainable* landscape discourse is an emergent discourse that has a strong overlap with the hegemonic discourse in terms of its landscape definition. However, it is less focused on the aesthetics or cultural history of the landscape, but more so on the economic value of the landscape. It stresses that “*bulb fields are an important economic motor for the municipality*” (Gemeente Hillegom, 2021) and “*an important pillar of the Dutch economy*” (KAVB *et al.*, 2018).

Biodiversity is more often mentioned in this discourse than in the previous one. “*Biodiversity is under pressure*” (KAVB *et al.*, 2018) is something all actors within this discourse acknowledge. At the same time, biodiversity is seen as intertwined with bulb farming, as “*innovation and entrepreneurship protect biodiversity around a strong agricultural sector*” (Gemeente Hillegom *et al.*, 2016). Thus, biodiversity and bulb farming can go hand in hand, according to farmers (KAVB *et al.*, 2018) and municipalities (Gemeente Hillegom *et al.*, 2016; Gemeente Noordwijk, 2018; Gemeente Lisse, 2022; Gemeente Teylingen, 2023). However, biodiversity is mainly discussed from an instrumental point of view, weighing its potential benefits (e.g., functional agrobiodiversity or social license to produce) and drawbacks (e.g., increase in pests or the required changes in farm operations to conserve biodiversity).

Problems

Apart from being concerned about urban development and cluttering, the main concern of these actors is the increasing pressure from government regulations, retail, and consumers to farm more sustainably. According to the sector, entrepreneurs are getting stuck between stricter environmental regulations from

national and EU policies and phytosanitary requirements from importing countries (KAVB *et al.*, 2018). In a way, these circumstances are treated as given, and the farmers within this discourse see it as their role as entrepreneurs to deal with this through innovation. This is also endorsed by municipal policies, which talk about “*innovative work*”, “*new technologies*” (Gemeente Lisse, 2022) and upscaling, intensification, and restructuration (Gemeente Hillegom, 2021). The farmers themselves mainly talk about “*cleaner farming*” (workshop), which they define as a decrease in the use of pesticides.

Solutions

The farmers within this discourse seem dedicated to becoming cleaner, via which they can also contribute to biodiversity. However, not via converting to other types of farming, such as organic farming, but via integrated pest management, which was defined during a local bulb farming event as “*a minimal dependence on chemical substances*” by changing several aspects of bulb farming, including breeding more resilient plants, using more organic types of manure, and using so-called “*green*” substances for pest management (pesticides on an organic basis). In this scenario, pesticide use will be reduced, but not down to zero. Farmers and researchers (e.g., R2) do not believe that abolishing pesticides is feasible. Nonetheless, a group of young farmers is developing a demonstration field in collaboration with Living Lab researchers in which they will experiment with organic bulb farming. According to the young farmers, the lack of a market is the main obstacle, which is confirmed by many others:

“If people think that they can expand this [organic bulb] market, you hope that the number of consumers choosing organic bulbs also increases. But that is not going to happen, and that is of course the reason, or an important reason, why bulb farmers do not simply switch to organic farming.” (A1)

So, while the market in general is seen as spurring change, due to the increasing interest in sustainability, it is not expected that the market will demand a transition to organic farming. While some farmers state to be intrinsically motivated to become sustainable, others merely follow market demand. Currently, the goal of the sector is to reduce 50% of pesticide use in 2030 following the goals of the EU Green Deal (EU, 2022b), but these farmers expect that to maintain their “*social license to produce*” (quote from workshop) they need to reduce 95% in the end:

“They [bulb farmers] just see that, okay, I want to work in a responsible fashion, and I can’t go on just like that, I have a

floriculture product that will not be accepted anymore by society.”
(BF1)

A theme that seems to become popular within this discourse is a focus on a healthy soil. During discussion nights and presentations from researchers, farmers often have questions with regard to the soil. The sector itself is also focusing on soils, by developing a soil academy and supporting farmers with soil coaches (KAVB *et al.*, 2018). According to one of the municipalities, healthy soil management should be part of “*sustainable innovation in the bulb sector*” (Gemeente Teylingen, 2023). Farmers want to invest in their soils because “*a healthy soil is crucial, without a healthy soil there are no healthy bulbs*” (A1). While not explicitly, this seems to be a shift towards other ways of thinking about farming (such as organic or regenerative farming), in which the living soil is seen as a central element of the farm (Bless, Davila and Plant, 2023).

Regarding the governance of the landscape, farmers stress the importance of independence and entrepreneurship. They want to take their own responsibility and thereby avoid government intervention in the region and on a national level. This is also part of the local political culture, where the municipalities stress the tradition of entrepreneurship (Gemeente Hillegom, 2021). Thereby, the farmers clearly relate to neo-liberal discourses on agriculture in which farmers are seen as entrepreneurs, just as in the previous discourse (Erjavec and Erjavec, 2009). While some farmers admit that change has generally come due to governmental intervention (e.g., BF3), it is at the same time seen as “*enough*” (BF3, BF6). Thus, to become economically vital and sustainable, “*all actors have to contribute to a better business model which enables the farmer to make sustainable choices*” (KAVB *et al.*, 2018). While stressing independence, most farmers also want more collaboration among farmers to stimulate knowledge exchange and thereby enhance innovation.

Institutionalization

Next to farmers, researchers, nature organizations, civil servants, and employees of agricultural companies and farming advocacy organizations are also part of this discourse. Thus, powerful actors within the landscape, but also outside of the landscape (in the sector and value chain). This discourse has been structured through several meetings and initiatives about sustainable bulb farming, such as meetings by the Greenport partnership, the association of bulb growers, and the collaboration between bulb growers and researchers. During the establishment of the Greenport partnership, sustainability was not a prominent theme yet but it became a strong focus of the partnership during the last years. Other signs of institutionalization are the current efforts to create a regional sustainability

certificate and the demonstration field of young bulb farmers. Moreover, some of the municipalities have now taken up goals regarding pesticide reduction, such as Noordwijk en Hillegom. However, there are no concrete actions formulated, and it seems that municipalities do not (perceive to) have the power to steer changes in the bulb sector as they do not make agricultural policies and do not own bulb fields. In general, this discourse seems to be slowly replacing the *open and agricultural* discourse.

A biodiverse and healthy landscape

Landscape definition

The *biodiverse and healthy* landscape discourse is an unstructured discourse in which the current status of the landscape and conventional bulb farming are criticized. However, there is a lot of variation on what a desirable Bulb Region should look like, which explains why it has not been structured yet. Some actors encourage ‘nature-inclusive’ or organic bulb farming without any pesticides to maintain the open landscape. Others prefer sustainable food production or nature-inclusive housing projects, which are also perceived as benefiting biodiversity, and do not specifically see the landscape as open and agricultural.

Biodiversity is prioritized in this discourse, not necessarily from an instrumental point of view, but rather for its intrinsic and relational value, and it is questioned whether the perceived link between bulb farming and biodiversity is legitimate:

“The nice thing is, if you push back a species [yellow wagtail] to a location which is the only place where it can survive, because all the other places where it normally could live have disappeared, you can say “it is a species that specifically lives between the bulbs”. Which is not the case at all. It used to live in any place. And now it is a good reason to maintain the bulb fields, because it is the only place where the yellow wagtail still lives.” (N5)

Problems

Apart from biodiversity loss, some actors also see human health as an important issue in the landscape. During the past year, there has been growing attention to the negative impacts of pesticides on human health, and bulb farming has been mentioned specifically in the Dutch media as an agricultural sector that uses high amounts of pesticides. Nonetheless, this is not a prominent theme in the Bulb Region, in contrast to other landscapes in which bulbs are produced (Bollenboos, 2023). One of the respondents believes that people within the Bulb Region are

aware of the negative impacts, but that the economy is prioritized, especially at the farm level:

“But yes, I think there was a documentary at Zembla [Dutch television program] about its [bulb farming] relation with Parkinson’s disease... I think that they [bulb farmers] are aware of it. But yes, if you have to earn your living with it...” (G4)

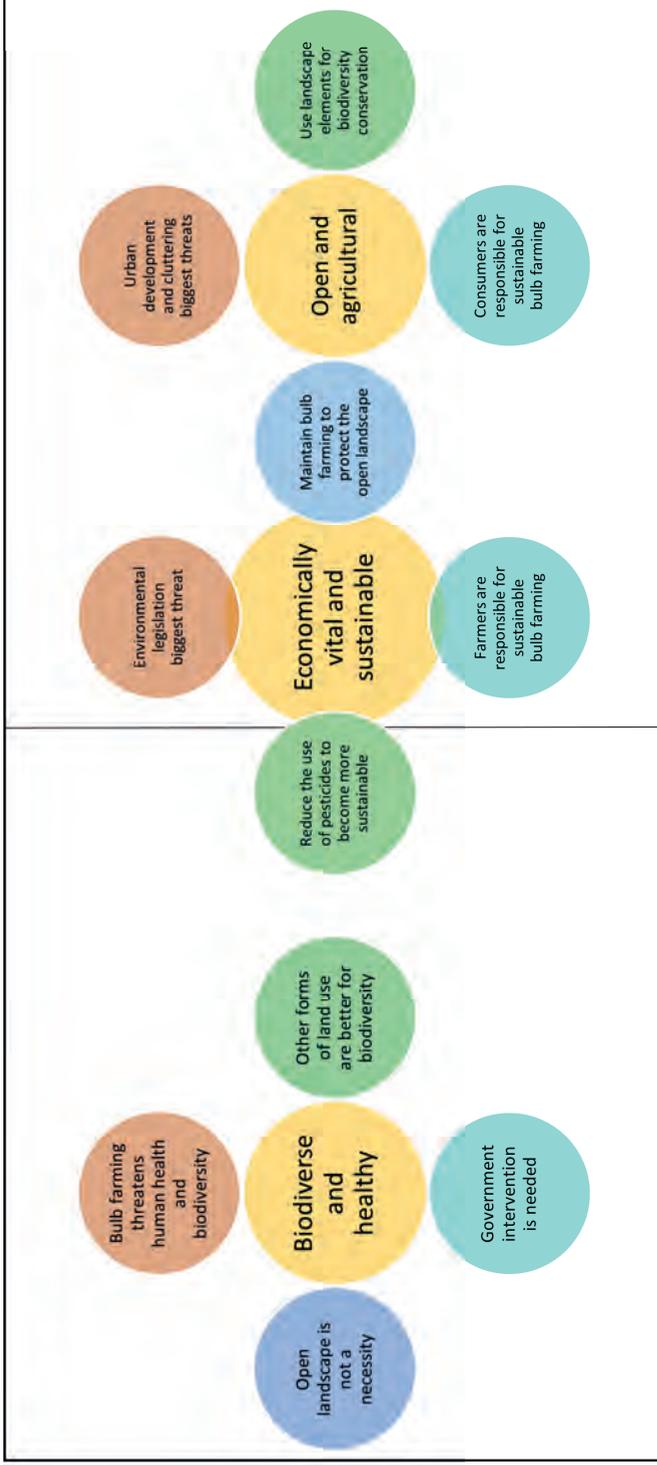
Solutions

While some propose other forms of land use, proponents of keeping bulb farming think that this is only possible with either strict regulations (G4) or support from the province (G9). Others do not believe that organic or nature-inclusive bulb farming is possible. It is impossible either because of the market or because it is biologically unfeasible, as bulb production involves the use of cultivars that are very susceptible to pests.

Institutionalization

An important barrier for the realization of the diverse landscape visions within this discourse is the ISG policy. Due to this policy, it is not possible to develop other forms of land uses on land that is defined as viable bulb land, which concerns most land outside of the villages. This not only protects the agricultural landscape from urbanization but also hinders the development of other types of agriculture, such as community-supported agriculture.

This discourse contains a lot of variation, with a common denominator: a critique of the idea that conventional bulb farming is sustainable and should be prioritized in the spatial planning of the landscape. It is not represented by any official document, was not discussed during official meetings, and was only found in interviews. Hence, this discourse has not yet been structured, let alone institutionalized.



Structuration

Institutionalization

Figure 19: Overview of the three discourses on a continuum from structuration towards institutionalization. Yellow = name of the discourse, red = main threat to the landscape, dark blue = perspective on open landscape, light blue = responsibility for desired changes (related to sustainability and biodiversity), green = proposed ways forward to improve biodiversity in the landscape.

4.4.2. Explaining discourse stability

In the first section of the results, I have described the different landscape discourses. In this section, I will explain the dominance of non-transformative discourses and the barriers to the structuration of transformative discourses using the four factors described in the theoretical framework: discourse characteristics, position of actors, dislocation events, and governance setting.

Discourse characteristics

There are three factors relating to the characteristics of the two dominant discourses that can explain their stability: their overlap, their naturalization, and a lack of opposing discourses.

The two dominant discourses, the *open and agricultural* and *economically vital and sustainable* discourse, are partially overlapping. They identify the same enemies (urbanization, stricter environmental legislation) and rely on the magic of the market or actions of individual farmers, and thus, do not discuss any systemic changes. The fact that the *economically vital and sustainable* discourse seems to be slowly replacing the *open and agricultural* discourse, could be explained by the fact that *economically vital and sustainable* provides an action repertoire for dealing with the strong pressure from state and society to change current agricultural practices, which is a big challenge for bulb farmers.

Both discourses seem to have been ‘naturalized’, which happens when a discourse “comes to be seen as natural, and legitimate because it is simply the way of conducting oneself” (Fairclough, 2001). This is reflected in the fact that questioning the export orientation of bulb farming or the place of bulb farming in the landscape is seen as unthinkable. Moreover, the strong connection between regional and national identity and economic aspects contributes to the coherence of the discourses and their perceived neutrality. Pictures of tulips and tulip fields can be found in any representation of the Netherlands, and bulb farming is seen as an important regional and national economic activity. Thus, apart from internal coherence, the strong relation with naturalized discourses on a national level strengthens the discourse as well.

The strength of these discourses is also determined by the absence of an opposing discourse, as the *biodiverse and healthy* discourse is not structured at all. Moreover, its action repertoire is rather abstract and mainly directed at actors outside of the landscape, such as the province and the national government. When looking at national discourses on agriculture, and especially sustainability or transformative

discourses, they do not seem to align, be relevant, or provide an action repertoire for the Bulb Region. Generally, discourses on the national level are about healthy food, nitrogen emissions, or animal welfare. Apart from one document, none of the consulted documents discussed bulb farming at all. Thus, there are no national (transformative) discourses that seem to threaten the dominant discourses. In fact, national discourses on integrated agriculture strongly align with the *economically vital and sustainable* discourse, especially in terms of the type of solutions. Through technological developments, it is believed, current characteristics of farm operations can be maintained (e.g., large-scale, export-oriented).

Position of actors

When looking at the status, credibility, resources, and power of actors, the dominant discourses are supported by the most powerful actors, such as municipal councilmen, employees of agricultural companies, researchers, and chairmen of all kinds of regional and national farmer organizations. Together, they hold a great deal of influence in the bulb sector, as they determine policy agendas, scientific agendas, as well as the agendas of both formal and informal farmer gatherings. Whether deliberate or not, they seem to employ certain discursive strategies by building coalitions on a landscape level, for example with nature conservationists, and excluding organic farming, both as a concept and quite literally by not inviting organic bulb farmers when discussing sustainable bulb farming.

Taking a farmer's perspective, the structure of the landscape and bulb sector makes it difficult for them to deviate from conventional practices. The Bulb Region originally consisted of many small-scale, specialized farms. Today, there are still many different landowners and bulb farmers, and due to the sensitivity of bulbs to certain pests and the specialization of bulb farmers in certain species and varieties, they lease land from each other regularly. Therefore, farmers cannot radically change their practices, as this will conflict with the visions and practices of farmers from whom or to whom they lease (their) land. Even on their own farms, farmers experience peer pressure from neighboring farmers to keep their land 'clean', devoid of 'weeds'. Thus, the dominance of the discourse directly influences the room for maneuver of farmers.

One of the main problems of the opposing discourse seems to be its lack of powerful actors. They are volunteers, non-bulb farmers, or civil servants without decision-making power. Moreover, these actors are generally not rooted in the landscape or known in the sector. Regional identity is very important in rural landscapes and is constituted through discourses (Paasi, 2013). Within these discourses, the relation of the landscape to 'other' landscapes plays an important

role. In this case, the dominant discourses define the landscape as open and agricultural, thus opposing every change that affects the openness of the landscape or its agricultural businesses. This focus on rurality is probably driven by the threat of the provincial government (located in the city of The Hague) pushing for urbanization. Thus, people who moved from the city into the Bulb Region might not have the (perceived) legitimacy to challenge the current system and practices.

However, the Bulb Region does seem to be influenced from outside, as national level conservationists working on rural biodiversity (Deltaplan Biodiversiteitsherstel) deliberately talk about healthy soils instead of biodiversity, to bridge the gap between farmers and conservationists. Within the Bulb Region, and especially within the *economically vital and sustainable* discourse, 'healthy soils' seems to catch on. In the demonstration field of young bulb farmers, a healthy soil is now the starting point for all experiments. Thus, this seems to be a deliberate and successful strategy to get farmers on board for biodiversity. Instead of weakening the dominant discourse, this strategy seems to ensure the uptake of new elements within the discourse.

Dislocation events

Between the 90s, when the *open and agricultural* discourse emerged, and today, two dislocation events can be identified, although they could better be described as developments rather than events: the Dutch housing crisis and increasingly strict environmental legislation instigated by the European Union. Both on a national level as well as on the landscape level, there is an increased sense of urgency regarding building new houses, and the Bulb Region is one of the areas where there is still space close to large cities. While pesticides are not a big theme on the Dutch agricultural agenda, they are discussed on the European Union level, for example, via the Green Deal and the proposed pesticide regulation (EU, 2022b). Both events are substantive threats to the desired landscape but do not seem to impact the legitimacy of the dominant discourses. The housing crisis actually strengthens the *open and agricultural* discourse because it reconfirms its *raison d'être*, while the pesticide discussion strengthens the urge for change as present in the *economically vital and sustainable* discourse. While there are citizen-led protests in other bulb farming regions in the Netherlands, the environmental justice discussion is not present in the Bulb Region, and farmers seldom receive complaints from citizens about their pesticide use.

Governance setting

The governance setting in the Bulb Region is very homogeneous in terms of discourses. The *open and agricultural* discourse is so strongly institutionalized that

the rules and resources in the area are all geared towards this goal, although some resources (like municipal financing of the Greenport) are now also used for the principles of the *economically vital and sustainable* discourse. Especially the fact that spatial planning rules embody the core of the *open and agricultural* discourse by having a fixed number of hectares dedicated to bulb farming makes this discourse so stable. There is just no legal basis for any other activity than bulb farming. When looking at the broader, international governance setting in which the Bulb Region is situated, zero-tolerance phytosanitary requirements from import countries force the export-orientated bulb sector to continue using pesticides, thus reinforcing the need for innovation, as advocated by the *economically vital and sustainable* discourse.

Within the landscape, there are clear signs of path dependency. First, by being a valuable crop, the farms have turned into large-scale, intensive farms. Due to their investments in, for example, machinery, but also planting material, farmers are reluctant to experiment with pesticide reduction or abolition, thus, these are fixed costs inhibiting change. Second, as most bulb farmers are educated or trained within the intensive bulb farming sector, there are no farmers with knowledge of alternative practices. Bulb farmers are also quite dependent on suppliers for advice. Smaller farmers, in particular, cannot afford to pay for independent advice or research (A2). These suppliers have, in some cases, expressed the desire to contribute to pesticide-use reduction, in line with the *economically vital and sustainable* discourse, but it is not yet clear how these are translated into practical advice given to individual farmers (A1). Third, regarding bulb farming as a spatial and economic issue (instead of relating to nature and health as well) is ingrained in the governance of the landscape. Within municipalities, bulb farming falls within spatial planning or economics. Lastly, even though there has been attention to sustainability issues on national television, bulb farming is still not widely perceived as unsustainable, and the demand for bulbs has not decreased, even though the Netherlands is currently facing high rates of inflation (Agrimatie, 2022b).

4.5. Discussion

4.5.1. The transformative character of landscape discourses

This study set out to analyze the institutionalization of landscape discourses and its implications for rural transformations. Therefore, it is important to assess the transformative character of the three discourses. The *open and agricultural* discourse does not wish for any substantive changes at all and could be regarded as a discourse that creates stability and maintains the status quo. Thus, this

discourse inhibits change, even though it acknowledges the relational and, to some extent, intrinsic value of nature and promotes the conservation of biodiversity. The *economically vital and sustainable* discourse is aimed at becoming economically vital and sustainable, but within the current practice of conventional bulb farming, so not involving systemic changes or trying to change external factors or indirect drivers such as market demand or (international) regulations. Biodiversity is not a big theme, but rather a side effect of sustainability. Moreover, some farmers who are part of this discourse do not feel an intrinsic motivation for changing but are rather following market demand. The *biodiverse and healthy* discourse is potentially transformative and prioritizes biodiversity, but is not yet structured or let alone institutionalized in the region. It was found during interviews but not during public occasions (such as consultation evenings) and therefore has little impact on policies and practices.

When comparing a transition perspective (Geels, 2002; Geels and Schot, 2007) with a transformative change perspective, different conclusions can be drawn. The *economically vital and sustainable* discourse represents and contributes to a transition towards more sustainable bulb farming. In fact, the Bulb Region knows many initiatives that strive for sustainability, while maintaining the current status quo, both in social and in natural-spatial terms. But from a transformative change perspective, biodiversity restoration might demand a shift away from (more) technology, or from the activity itself. Putting the activity (or sector) at the central stage might therefore inhibit an analysis of what kind of change is necessary to restore biodiversity on a landscape level, which shows the importance of taking a landscape perspective when studying transformative change for biodiversity.

4.5.2. The stability of landscape discourses

Though not transformative, the dominant discourses determine the developments in the Bulb Region. Their strength lies in their intricate weaving of landscape preferences, economy, and regional identity. Following the logic of the discourse, criticizing or discussing the sustainability of the bulb sector might be a risk not worth taking, as actors do not want to lose the open landscape. Reminding people of the past plans for a bulb city and connecting this to the current shortage of housing in the Netherlands seems a powerful strategy to strengthen the idea that the bulb sector must be maintained to prevent urbanization processes. Additionally, many actors have direct economic interest in the sector, which makes it less likely that they would support alternative or opposing discourses. Another factor that stabilizes the dominant landscape discourses is the singularity of the sector. Therefore, many sustainability issues on a national level, such as the

nitrogen crisis or the increasing demand for healthy food, do not impact the landscape and landscape discourses, which might be a finding that is also applicable to other non-food agricultural sectors. Because of the absence of opposing discourses, even shock events do not have a big impact, as actors belonging to the dominant discourses have ample time, space, and legitimacy to frame the event in accordance with their discourse and thereby strengthen it, a process which was also found in other cases (Driessen and De Gier, 1999; Kaufmann, Lewandowski, *et al.*, 2016).

Another explanation of the stability of the dominant discourses is that landscape discourses inherently entail a form of naturalization (Fairclough, 2001) of the landscape (Nogué, 2007). The landscape, in its current form, is perceived as 'the landscape'. Instead of being seen as something dynamic, it is perceived as something static. The current landscape is how it 'ought to be'. And in the case of the Bulb Region, the opposing discourse does not provide a coherent different perspective on the landscape. In Chile, landscapes were reforested on a large scale for timber production, and the development of these plantations was accompanied by new storylines on the landscape. These landscapes are now perceived as natural by its inhabitants, who are mostly unaware that these landscapes were only recently (60s) turned into forested areas (Aliste, Folchi and Núñez, 2018). These static perceptions of landscapes are particularly challenging for transformative change, as some forms of land use might contribute to biodiversity loss and might therefore not fit into a sustainable, nature-inclusive society.

An important question is, therefore, how landscape discourses can be deliberately influenced. What my case shows in this regard is that certain elements of overarching and potentially transformative discourses can serve as boundary concepts (Star, 2010; Opdam *et al.*, 2015; Westerink *et al.*, 2017), such as a healthy soil, and can thereby be incorporated in landscape discourses and be translated into action (such as the experiments of young bulb farmers). But by aligning partly with the hegemonic discourse, it strengthens certain parts of it, and might even further inhibit the structuration of alternative and transformative discourses. This is a clear case of what Hajer (1995) refers to as the 'discursive dilemma'. The *biodiverse and healthy* discourse is a transformative alternative, which is not becoming structured at all, while the *economically vital and sustainable* discourse is only marginally different from the *open and agricultural*, and thereby might only contribute to incremental change. However, some authors actually prefer gradualist approaches, which are based on the change of 'familiar initiatives' (Levin *et al.*, 2012; Linnér and Wibeck, 2019), and stress that these incremental changes can contribute to transformative change, as long as they are geared towards this

(Patterson *et al.*, 2017). Their main critique of radical changes is that this is unrealistic, as wicked problems do not have simple solutions, and circumstances might change throughout the course of action (Weick, 1984; Levin *et al.*, 2012; Patterson *et al.*, 2017).

The discursive changes in the Bulb Region during the shift from the *open and agricultural* and *economically vital and sustainable* might thus not involve radical change, addressing the root causes, i.e., indirect drivers, but does represent a step forward on a moderate scale, focusing on direct drivers. As this shift has mainly occurred due to external pressure, the role of the landscape itself in (discursive) change has been minimal. The *open and agricultural* discourse legitimized and naturalized the place of bulb farming in the landscape, while the *economically vital and sustainable* provides an action repertoire to continue bulb farming under external pressure. Thus, while external forces can lead to incremental change in strongly institutionalized discourses, this adaptation process makes it more difficult to challenge the discourse and therefore to instigate fundamental, transformative changes on a landscape level, at least in the short term.

4.5.3. Implications for rural transformations

The fact that strongly institutionalized landscape discourses can be incredibly stable is positive when these discourses prioritize biodiversity, but negative if not. Especially in countries where a lot of responsibility is put on local governments, such as the Netherlands, which is a “*decentralized unitary state*” in which everything should be decentralized “*if possible*” (Rijksoverheid, 2023), non-transformative landscape discourses can severely hamper the realization of rural transformations for biodiversity. Stability comes not only from the discourse characteristics, but also from non-discursive factors, such as the natural-spatial conditions of the land in combination with the type of agriculture (need for large scale crop rotation), international rules and regulations (phytosanitary requirements of import countries) and the structure of the agricultural sector (high value crop, but too small a sector to develop specific pest solutions).

While discursive institutionalism mainly focuses on discursive explanations for institutional change and stability, it is the interaction between discursive and non-discursive factors that creates institutional stability at the landscape level. While previous studies on path dependency in Dutch agriculture showed how material, cognitive, technological, cultural, financial, and regulative factors limit the possibilities for farmers and agriculture in general to change, they did not include the discursive element enhancing the overall stability created by these factors (Vink

and Boezeman, 2018; Schuurbijs, Grashoff and Runhaar, 2019). A landscape discourse can play an important role by connecting all these factors in one narrative around what the landscape is and ought to be, thereby contributing to a situation with little possibility for change. This finding aligns with research on discursive lock-ins, which shows that while rarely studied, dominant discourses play an important role in stabilizing socio-technical systems via unchallenged values and assumptions, discursive agency, and co-optation of emergent or new narratives (Simoens, Fuenfschilling and Leipold, 2022; Simoens, Leipold and Fuenfschilling, 2022).

For rural transformations to occur in landscapes in which this seems to be undesired or impossible, all dimensions of the system need to be addressed, including landscape discourses. However, as the example of 'a healthy soil' shows, the discursive dilemma makes deliberate steering towards the structuration and institutionalization of transformative landscape discourses difficult. Moreover, many drivers of institutional stability and change in landscapes are outside of the landscape and cannot be influenced by the actors within the landscape. Thus, while acknowledging landscape specifics is important, it might not be favorable to put all responsibility for societal transformations on landscapes. Not only because landscape actors do not have the capacity to address all relevant indirect drivers, but also because the interests of citizens might conflict with the interests of society. Several studies on pesticides show that especially farmers, although most affected, resist a decrease in pesticide use (Mansfield *et al.*, 2023). For transformative change, other governance levels need to be engaged as well. The development of the *economically vital and sustainable* discourse seems to be induced by EU and national level sustainability policies, which oblige farmers to change, and have therefore spurred a different view on farming. A combination of top-down policies setting the boundaries and goals, and landscape governance for implementing the goals via tailored solutions might thus be the best way forward when landscapes are in a closed, stable setting in which there are few alternative ideas. In that case, the landscape should be equipped with sufficient resources and jurisdiction.

4.6. Conclusion

This study shows that transformative discourses for biodiversity can be difficult to structure and institutionalize in landscapes dominated by a stable landscape discourse. The stability of landscape discourses cannot only be explained by the characteristics of the discourses themselves, but by the intricate relation between landscape discourses and non-discursive characteristics of the landscape (such as

natural-spatial conditions, structure of the agricultural sector, and embeddedness in international trade). Changes in landscape discourses mainly come from external forces, such as the introduction of boundary concepts via national discourses, stricter sustainability legislation, and pressure from the market and society. To enable rural transformations for biodiversity, landscape governance alone might therefore not suffice, and could be complemented with national-level goal or boundary setting.



5 Amplifying the transformative impact of landscape-oriented partnerships

Understanding conditions for and interactions of amplification processes

Abstract

Rural landscapes are vital for many species. However, the shift towards intensive agricultural practices with high external inputs has significantly reduced heterogeneity, habitats, and hence, biodiversity in these landscapes. A promising approach to counter this decline is the formation of landscape-oriented partnerships—voluntary collaborations among diverse actors aimed at promoting biodiversity restoration or conservation within a specific landscape. These partnerships are seen as potential drivers of broader transformative changes in agricultural practices and landscape management. Yet, research indicates that while many partnerships achieve positive outcomes, they rarely realize fundamental changes within or beyond the landscape itself. To become a “Seed of Good Anthropocenes”, these partnerships have to amplify their impact.

This paper advances the understanding of the amplification processes through which landscape-oriented partnerships can contribute to transformative change for biodiversity in rural landscapes. We draw on a comparative case study of partnerships working on bulb farming and the restoration of landscape elements in the Dutch Dune and Bulb Region in the Netherlands, using interviews, participant observation, and policy document analysis. Based on our analysis, we identify three important processes in amplification. First, we saw that combinations and interactions of different amplification processes determine a partnership’s contribution to transformative change. Second, while value change seems to be a prerequisite for transformative impact, the strengthening and expansion of the activities or goals of a partnership can inhibit this process. Third, alignment with policy goals emerged as a critical factor for enabling amplification; however, deliberate alignment with policy goals can also lead to narrowing down of partnerships, as most policies, rules, and regulations relevant for farmers are very specific and not system-oriented. Thus, to enable the amplification of partnerships’ contributions to transformative change, transformative governance approaches, such as integrative governance, need to lead the visions, policies, and legislation at both the landscape and higher levels.

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5.1. Introduction

Semi-natural habitats and spatial heterogeneity are declining in many agricultural landscapes, which has a negative impact on farmland biodiversity (Fahrig *et al.*, 2011; Martin *et al.*, 2020; Ridding *et al.*, 2020). The interaction between ongoing ‘optimization’ of agricultural lands, leading to less diverse landscapes, and increased use of external inputs, such as fertilizer and pesticides (Jeliazkov *et al.*, 2016), leads to an even stronger negative impact on biodiversity. For example, European bumblebees appear to be more affected by pesticides in simplified landscapes than in more diverse landscapes (Nicholson *et al.*, 2023). To restore biodiversity in rural landscapes, changes beyond the landscape as well as on the farm level are essential. Realizing these changes requires addressing the indirect drivers that caused this shift towards homogenous, intensively farmed landscapes with low biodiversity. Therefore, biodiversity restoration needs transformative changes on different governance levels (Visseren-Hamakers *et al.*, 2021). Transformative change has been defined by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) as “*A fundamental, system-wide reorganization across technological, economic and social factors, including paradigms, goals, and values*” (IPBES, 2019).

Landscape-oriented partnerships, which are voluntary arrangements with multiple actors working on a specific landscape, are expected to potentially contribute to biodiversity restoration in agricultural landscapes in a transformative manner (Mupepele *et al.*, 2021; Meijer *et al.*, 2021). However, we lack an understanding of whether and how they can enable transformative change. A review on the role of landscape-oriented partnerships in transformative change for biodiversity showed that many have a positive impact, but that these initiatives rarely realize fundamental changes within the landscape, nor have an impact beyond the specific landscape they work in (**chapter 2**, de Koning *et al.* 2023).

The aim of this paper is, consequently, to analyze whether and how landscape-oriented partnerships can be ‘seeds for change’ by amplifying their impact and thereby contributing to transformative change (Bennett *et al.*, 2016). The ‘Seeds of Good Anthropocenes’ (Seeds of Good Anthropocenes, 2023) is a research project studying and conceptualizing such ‘seeds’. Scholars within this project generally focus on the strategies or agency of actors and the use of seeds as a starting point for developing desirable visions for radically different futures (Raudsepp-Hearne *et al.* 2020; Pereira *et al.* 2018a; Pereira *et al.* 2020).

The concept of amplification is nested in the literature on ‘seeds’ and can be used to understand to what extent, how and under what conditions the impact of landscape-oriented partnerships can be strengthened, enlarged, or deepened (Lam *et al.*, 2020, 2022). Thereby, we complement the work by de Koning *et al.* (2023) (**chapter 2**), who mainly looked at the transformative potential of landscape-oriented partnerships by studying their current impact.

While factors limiting and enhancing the activities of seeds are studied in the seed literature (Pereira *et al.* 2018b), most articles do not focus on the influence and interaction of conditions (e.g., institutional) and seeds (Bachi *et al.*, 2023; Tuckey *et al.*, 2023). Much of the literature studies future visions and how participants plan to realize them, instead of empirically studying the conditions that enable or constrain them (Raudsepp-Hearne *et al.*, 2020). In this study, we therefore focus on actual amplification processes in concrete landscape-oriented partnerships, the interactions between these processes, and conditions for amplification.

To study amplification processes, we selected three landscape-oriented partnerships that emerged within a Dutch agricultural landscape facing several sustainability challenges: the Dutch Dune and Bulb Region. This region is globally renowned for the production of flower bulbs such as tulips, hyacinths, and daffodils, contributing significantly to the local economy and national cultural identity. It is an intensively used, monocultural landscape, characterized by high amounts of pesticide use, as well as the application of fertilizers (Tiktak *et al.*, 2019), thus sparking societal discussions on the long-term sustainability of this agricultural sector and the need for (transformative) change. The partnerships we selected for our study work on two objectives: 1) improving the sustainability of bulb farming practices, i.e., reducing pesticide use; and 2) restoring semi-natural habitats via landscape elements.

This paper proceeds as follows. First, we elaborate on our theoretical framework to study the processes of amplification. We then discuss our methodological approach, followed by the results in which we introduce the three partnerships, describe the amplification processes, and the conditions influencing these processes. In the discussion section, we reflect on the role of different forms of amplification in transformative change, the implications of our study for transformative landscape governance, and the limitations of our study.

5.2. Theoretical framework

5.2.1. Landscape-oriented partnerships as ‘seeds’

In this paper, we focus on landscape-oriented partnerships for biodiversity. Landscape-oriented partnerships for biodiversity are “*voluntary arrangements in which combinations of state, market and/or civil society actors collaborate to contribute to biodiversity restoration or conservation in a specific landscape*” (chapter 2, de Koning *et al.*, 2023).

We conceive these landscape-oriented partnerships as potential seeds of change. In the ‘Seeds of Good Anthropocenes’ (SOGA) project, scientists focus on studying existing initiatives (‘seeds’) that represent different or new ideas and practices that have not (yet) become dominant or widespread but could lead to radically different futures (Bennett *et al.* 2016; Pereira *et al.* 2018). Seeds are defined by Bennett *et al.* (2016) as future-oriented “*initiatives (social, technological, economic, or social-ecological ways of thinking or doing) that exist, at least in prototype form, and that represent a diversity of worldviews, values, and regions, but are not currently dominant or prominent in the world*” (p. 442).

5.2.2. Transformative change

The fundamental changes that Bennett *et al.* refer to and to which landscape-oriented partnerships may potentially contribute are often referred to as ‘transformative change’. Transformative change can encompass transitions (a concept generally used for changes in subsystems) and transformations (changes in society as a whole) (Feola, 2015; Hölscher, Wittmayer and Loorbach, 2018). Though these concepts have different origins and foci, they always involve qualitative fundamental changes in either subsystems of society or society as a whole, and focus on the root causes of sustainability problems (Feola, 2015; Visseren-Hamakers and Kok, 2022).

Following the definition of transformative change from the IPBES Global Assessment (2019), we will look at technological changes (e.g. introduction of new technologies or moving towards less dependence on particular technologies), economic changes (e.g. different business models or different approaches towards measuring value), social changes (e.g. changing power relations) and changes in paradigms, values and goals. We assume that most changes, such as economic and social changes, follow discursive changes (Schmidt, 2008a). Therefore, changing

paradigms, values, and goals is generally seen as the leverage point with the highest transformative potential (Meadows, 2008; Horcea-Milcu *et al.*, 2019; IPBES, 2019).

Transformation processes are not linear or straightforward, but complex and delayed. The amplification literature enables us to unpack these processes in a more detailed and nuanced manner by identifying/differentiating different processes through which partnerships can enhance their contribution to transformative change.

5.2.3. Amplification

Based on different strands of theory Lam *et al.* (2020) developed a typology of ‘amplification processes’. Lam *et al.* (2020) distinguish between amplification processes that occur within initiatives, out of initiatives, and beyond initiatives. *Amplifying within* an initiative can refer to stabilizing (strengthening of the initiative itself) or speeding up (increasing the speed of their work) (Lam *et al.*, 2020). While these two processes may not seem to contribute to transformative change directly, they can enhance the impact of transformative partnerships on biodiversity.

Amplifying out of an initiative can refer to expanding the impact of an initiative via growing (same initiative, same context), replicating (same initiative, different context), transferring (similar initiative, same context) and spreading (similar initiative, different context) (see Table 8) (Lam *et al.*, 2020). This could lead to biodiversity conservation in various places, but often at the same (local) level. However, if these initiatives accumulate in many different places, this might be regarded as transformative change.

When initiatives impact other governance levels, we witness *amplifying beyond* an initiative. Amplifying beyond generally involves higher-level changes in societal values and/or in terms of formal rules (institutionalization) (Lam *et al.*, 2020). Regarding values, this can also happen at the initiative, and thus local or even personal level (O’Brien and Sygna, 2013). Thus, understanding how initiatives can amplify beyond might be key to unlocking the transformative potential of seeds, as well as understanding how seeds themselves transform in that process (Boezeman, 2015).

Within the typology of Lam *et al.* 2020, the role of the discursive dimension in amplification processes is relatively underdeveloped, even though discourses can be an important leverage point in transformative change processes. The concept of

'frame amplification', developed by Benford and Snow (2000), focuses on how actors can effectively promote a particular understanding of the problem by connecting it to broader discourses (e.g., sustainable business or new fashions in governmental steering). This may increase the resonance of their interpretation with a wider audience, which may enable them to attract more powerful sponsors or supporters. We see frame amplification, therefore, as a separate, discursive process of *amplifying beyond* next to changing values and rule systems. A Swedish case study on seeds showed indeed that, among other things, connecting to narratives on a national level and incorporating changes at the municipality level are ways in which initiatives can amplify and contribute to transformative change (Sellberg *et al.*, 2020).

Table 8 provides an overview of all the amplification processes derived from the literature and used in the analysis of this study, including frame amplification.

Table 8 : Amplification types and processes.

Amplification type	Specific process	Definition	References
Within	Stabilizing	<i>“Strengthening and more deeply embedding initiatives in their context, making them more resilient to upcoming challenges and ensuring that they last longer”</i> (p. 11, Lam et al. 2020)	(Bennett et al., 2016; Valkering et al., 2017; Gorissen et al., 2018)
Within	Speeding up	<i>“Increasing the pace by which initiatives create impact or are brought to fruition”</i> (p. 12, Lam et al. 2020)	(Rosenthal et al., 2017; Valkering et al., 2017; Frantzeskaki et al., 2018; Gorissen et al., 2018)
Out	Growing (same initiative, same context)	Expanding the impact range, working in the same way across a geographical location, organization, or sector (Lam et al., 2020)	(Bennett et al., 2016; Naber et al., 2017)
Out	Replicating (same initiative, different context)	<i>“Copying an initiative to a dissimilar context”</i> (p. 15, Lam et al. 2020)	(Moore, Riddell and Vocisano, 2015; Bennett et al., 2016; Hermans, Roep and Klerkx, 2016; Naber et al., 2017)
Out	Transferring (similar initiative, similar context)	<i>“Taking an initiative and implementing a similar but independent one in a different place, adapted to the new but similar local context”</i> (p. 15, Lam et al. 2020)	(Rotmans and Loorbach, 2008; Withycombe Keeler et al., 2016)
Out	Spreading (similar initiative, different context)	<i>“Disseminating core principles and approaches to other places with a dissimilar context”</i> (p. 15, Lam et al. 2020)	(Rotmans and Loorbach, 2008; Moore, Riddell and Vocisano, 2015)

Amplification type	Specific process	Definition	References
Beyond	Value change (referred to as scaling deep by Lam <i>et al.</i>)	<i>“Processes that aim to change people’s values, norms, and beliefs through the work of the initiative by fostering new mind-sets, changing perceptions, and introducing new ways of relating and knowing as well as new value systems”</i> (p 16, Lam <i>et al.</i> 2020,)	(Rotmans and Loorbach, 2008; Moore, Riddell and Vocisano, 2015; Bennett <i>et al.</i> , 2016; Loorbach, Frantzeskaki and Avelino, 2017; Horcea-Milcu <i>et al.</i> , 2019)
Beyond	Institutionalization (referred to as scaling up by Lam <i>et al.</i>)	<i>“Processes that aim to impact higher institutional levels by changing the rules or logics of incumbent regimes. This means codifying the impact of initiatives into law, policy, or institutions by, for instance advocacy, lobbying, networking or supporting alternative visions and discourses”</i> (p. 15, Lam <i>et al.</i> 2020).	(Rotmans and Loorbach, 2008; Moore, Riddell and Vocisano, 2015; Hermans, Roep and Klerkx, 2016; Naber <i>et al.</i> , 2017)
Beyond	Frame amplification (added)	<i>“Depicting an SMO’s [social movement, in this case: initiative’s] interests and frame(s) as extending beyond its primary interests to include issues and concerns that are presumed to be of importance to potential adherents”</i> (p. 625, Benford and Snow 2000)	(Benford and Snow 2000)

5.3. Methods

5.3.1. Case study

To enable an in-depth study of amplification processes, we opted for a comparative case study that originated in a single landscape: the Dutch Dune and Flower Bulb Region (see Figure 20). Located in the densely populated west of the Netherlands, the landscape is characterized by agricultural fields predominantly dedicated to flower bulb cultivation (see Figure 21), situated along sand dunes that are largely designated as protected areas. Due to agricultural intensification, the landscape has lost many landscape elements, such as hedgerows. This loss of landscape complexity and the use of pesticides have led to a loss in biodiversity, including a

decrease in the population of characteristic species, such as the grey partridge (*Perdix perdix*). The distinctiveness of this landscape is that its agricultural production is export-oriented, but that it is still valued for its cultural significance, contribution to the national identity, local economy, and the protection of the open landscape, something that is particularly important to the local community (**chapter 4**, de Koning, 2024).

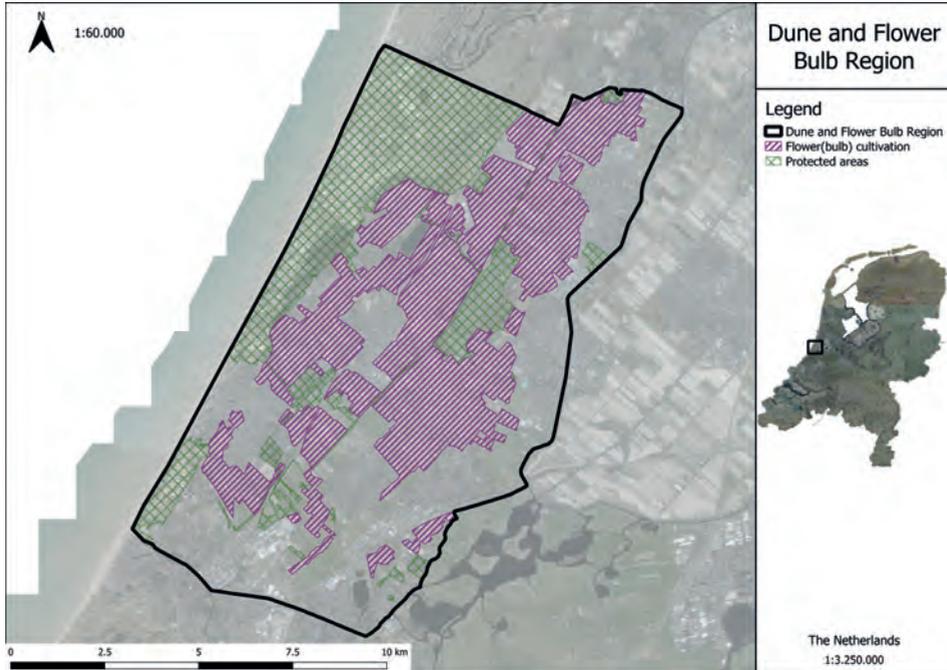


Figure 20: Map of the Dune and Flower Bulb Region. The line indicates the region's borders, the diagonally lined areas indicate flower (bulb) cultivation areas, and the crossed areas indicate protected areas (e.g., Natura2000 areas). Map created by Hugo Langezaal.

Within the landscape, we found two ways in which actors try to contribute to biodiversity restoration: increasing the sustainability of bulb farming and bringing back landscape elements. Based on extensive desk research, participant observation, and exploratory interviews, we selected three partnerships actively working on these issues. The partnerships are all landscape-oriented and try to connect farmers with other actors, such as the government (municipalities, water boards, and the province) or researchers. Two partnerships focus on bulb farming via a regional certification scheme and a demonstration field (see Figure 21), and one focuses on landscape elements via a project targeted at partridge conservation (see Table 9 for an overview of the partnerships).

Table 9: *Overview of the landscape-oriented partnerships included in this study.*

Name	Issue	Description	Goals	Actors
Regional certification scheme	Bulb farming	Certification scheme for bulb farmers using KPIs for sustainability	Enhancing the sustainability of the bulb sector through benchmarking	Bulb farmers, Greenport (partnership between municipalities and the local agricultural sector), agricultural advocacy organizations, provincial government, the water board, de Keukenhof (flower garden)
Demonstration field	Bulb farming	Field on which experiments on 'nature-inclusive' and 'extensive' bulb farming takes place	Developing and disseminating knowledge, providing space for farmers to experience different practices	Young bulb farmers, Greenport (partnership between municipalities and the local agricultural sector), agricultural company, researchers
Partridge project	Landscape elements	A collection of nature conservation measures, including the planting of hedges on farm and private lands	Improving the suitability of the landscape for bird species such as the grey partridge	Local nature organization, bulb and dairy farmers

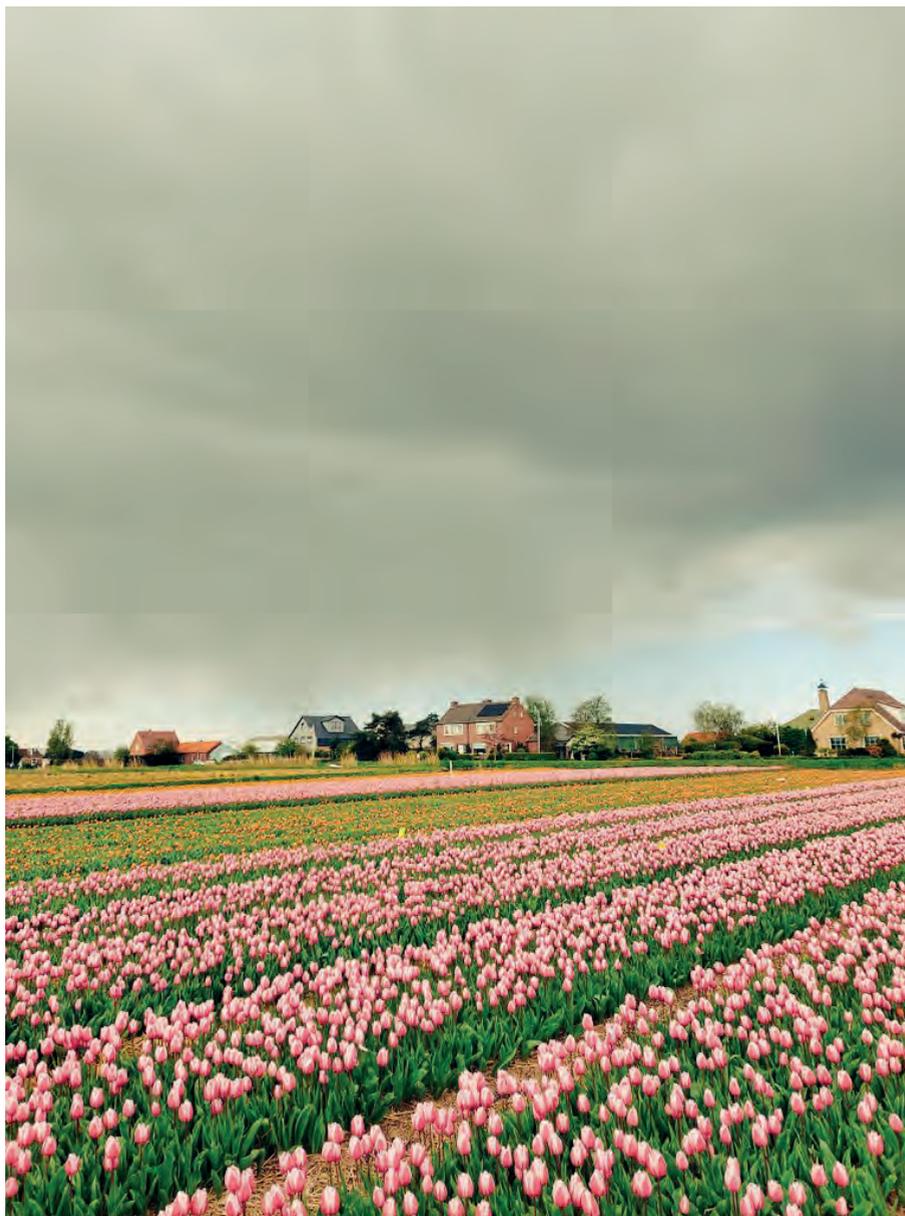


Figure 21: *Picture of the demonstration field, showing the 'typical' landscape of the Bulb Region with tulips in the foreground and a small strip of houses in the background. Picture taken by the author.*

5.3.2. Research approach

For studying the different partnerships, including their interactions with other actors within and beyond the Bulb Region, we combined different methods to get a

rich and in-depth understanding. Our research took place in the context of a Living Lab aimed at biodiversity restoration in the Bulb Region, which enabled us to observe and participate in partnership activities (Living Lab B7, 2024). Living Labs are projects in which transdisciplinary research is conducted within a real-life environment, in our case, a landscape (Toffolini *et al.*, 2021; Kok *et al.*, 2023). To get to know the different partnerships and actors and establish a working relationship (for example, to develop a partnership or event together), we held 21 exploratory interviews. For the specific purpose of this study, we held 21 in-depth interviews with actors within and outside of the studied partnerships. Both the exploratory and in-depth interviews were held in Dutch, generally lasted around one hour, and were held either online or in person using a semi-structured interview guide (see List A in the appendix). Before the interview, consent for recording the interview was obtained verbally or via email. As some actors were interviewed twice via follow-up interviews, the total number of actors interviewed is 38. To study interactions between actors, as well as follow new policy and partnership developments, we conducted participant observation in 28 meetings and events related to the studied partnerships and spatial, nature and agricultural policies of the region and bulb sector and organized one workshop on biodiversity on bulb farms (see Table A and B in the appendix for an overview of interviews and events).

In addition to the field research, we analyzed policy documents from public and private actors, political motions, and news articles to look for potential interactions between different governance levels and the landscape-oriented partnerships. The document corpus had a time span of 5 years (2018-2023). However, some older documents were included as well, such as the latest spatial planning policy for the Bulb Region (2016) and the last landscape-scale investment program for recreation and nature (2016). By starting in 2018, we include major events and documents, such as the development of a sectoral vision for sustainable bulb farming (2018), the development of the Deltaplan Biodiversiteitsherstel (2019), and the local partridge project (2018).

We looked at 30 policy documents on a national, provincial, and local level, which were selected based on the interviews, participant observation, and desk research, and whether they seemed relevant to the Bulb Region (see Table C in the appendix). Additionally, we searched for relevant political motions regarding landscape elements or (sustainable) bulb farming in the Dutch national parliament, the provincial parliament (Zuid-Holland), and municipalities (Hillegom, Katwijk, Lisse, Noordwijk, and Teylingen), and looked at regional and local news articles about landscape elements and bulb farming. For both searches (motions and news articles) the timespan January 2018 to November 2023 was used. The searches

resulted in 19 parliamentary motions, no provincial motions, 7 municipal motions, and 54 news articles. 8 news articles were found before the formal search, via LinkedIn or personal communication, and 2 were added afterward. For a list of motions and articles, see respectively Table D, E and F in appendix.

5.3.3. Data analysis

All data (fieldwork and desk research data) was analyzed using Atlas.Ti (ATLAS.ti Scientific Software Development GmbH, 2024). Based on the theoretical framework, we deductively developed codes to structure the data and analyze the different partnerships and amplification processes. The codes were used to map the different events and amplification processes, as well as the different conditions influencing these processes. For the study of the amplification processes, we started off deductively, while for the study of conditions for amplification, we used an inductive approach. During the coding process, by iteratively comparing data with data and data with concepts, we inductively specified the recurring themes in the data within the categories used from the start. An overview of the codes and how frequently they were applied can be found in Table G in the appendix.

5.3.4. Positionality and reflexivity

The first author is an active member of the Living Lab and was, depending on the specific case, involved in initiating, adapting, or supporting the partnership(s). Therefore, this research provided the possibility to have a rich account of the initiation and amplification of partnerships, as well as opportunities to rediscuss these processes in follow-up encounters with actors in the field. To mitigate potential bias and maintain reflexivity, we (1) organized 'peer debriefing' through meetings with the other authors and in conferences, and (2) used a normative, critical theoretical framework (see previous section). After writing the results section, two people from the partnerships (one key actor in both the demonstration field and regional certification scheme and one key actor in the partridge project) checked our results for factual correctness.

5.4. Results

5.4.1. Bulb farming partnerships

Partnerships under study

The bulb farming sector is facing great challenges in terms of addressing pesticide use and phosphate leakage to surface waters. While turning to organic farming seems to be a solution in many agricultural sectors, bulb farmers exhibit reluctance towards such a conversion, as observed in all meetings regarding this topic during the last four years and interviews with farmers. Farmers regard organic bulbs as economically unviable because of their export orientation, as importing countries have strict phytosanitary requirements, and bulbs are highly susceptible to pests (Snoek *et al.*, 2002; Raaijmakers, 2016; **chapter 4**, de Koning, 2024). Therefore, farmers, governments, and partnerships between them focus on making bulb farming more sustainable in terms of a reduction in pesticide use and a decrease in the emissions of pesticides and phosphate. In the Bulb Region, there are two partnerships which explicitly focus on more sustainable bulb farming: 1) a regional certification scheme demanding better environmental performance of individual farmers and the region as a whole, and 2) a demonstration field to experiment with extensive and nature-inclusive bulb farming.

The regional certification scheme was initiated by a prominent farmer in the region as a response to the increasingly strict EU environmental legislation, such as the 7th Nitrates Action Program (Ministerie van LNV and Ministerie van I&W, 2021), the Water Framework Directive (EU, 2000), and Pesticide Regulation (EU, 2022b) and an increasing number of negative stories in the media about pesticide use in bulb farming. Through Key Performance Indicators (KPIs), the performance of individual farmers and the collective of farmers with regard to the environment and climate will be measured. The goal of the certification is to improve environmental performance, to communicate the efforts of farmers to citizens of the region and society as a whole, and to comply with the environmental goals of the provincial policy plan for rural areas (Kager, Jansen and de Maijer, 2023; Provincie Zuid-Holland, 2023). In terms of compliance, they focus mainly on the goals relating to the Water Framework Directive (Kager, Jansen and de Maijer, 2023). In 2025, approximately 14 farmers will participate in the first pilot of the certificate.

The second partnership, the demonstration field, was developed as part of the Living Lab for biodiversity restoration. The idea was to establish a demonstration field in which farmers, together with researchers, could gain experience with sustainable farming practices. The field was developed in collaboration with a

group of young bulb farmers, the Greenport (a partnership between local governments and the bulb sector), and the agricultural company Agrifirm-GMN. It is a 0,4-hectare plot on which tulips are grown in two ways: ‘extensively’, which excludes the use of synthetic fertilizer and preventive use of pesticides, and ‘nature-inclusive’, which excludes any form of pesticides use, fertilizer or manure and includes the development of a wildflower strip to enhance functional agrobiodiversity. The two parts of the plot are separated by a hedge consisting of native species (Mariën, Vonk and Riem, 2024).

Based on the plans, goals, and current achievements of these partnerships, we expect them to potentially contribute to transformative change by stimulating changes in practices, including technological changes. Additionally, in the case of the demonstration field, we anticipate changes in values as well, as it emphasizes alternative farming methods which align with different perspectives on nature and farming (such as organic practices).

Amplification processes

In the two bulb farming partnerships, we observed the following amplification processes: amplifying within (stabilization and speeding up), amplifying out (growing, spreading, and transferring), and amplifying beyond (frame amplification). Interestingly, we also observed another type of process which was not part of our initial typology and we term ‘converting’, as part of amplifying out. Both partnerships started in 2023 and are currently focused on stabilizing their efforts. If we take the efforts of individual frontrunner farmers who were already experimenting with more sustainable bulb farming as a starting point, then both partnerships also contribute to speeding up the efforts of these frontrunner farmers by providing a benchmark and new practical knowledge.

The stabilization and speeding up processes become intertwined in the application for a new ‘field lab’, which will serve as a follow-up to the current Living Lab. If the field lab is granted, the partnership will use those resources for the expansion (growth) of the demonstration field and to “*embed this cooperation in a more permanent way in the region*” (stabilizing) (Greenport Duin- en Bollenstreek, 2023). The idea is to enlarge the original demonstration field, add new facilities, and conduct new experiments. Additionally, there will be new fields dedicated to experiments on different farms throughout the landscape. Here, stabilization, speeding up, and growth go hand in hand.

One of the goals of the expansion of the demonstration field through the field lab is that more farmers will be engaged in the experiments and therefore contribute to a

more sustainable bulb sector. Moreover, they want to ensure the integration of the two partnerships (regional certification scheme and demonstration field) by directly implementing the knowledge they gain on the demonstration field(s) in the regional certification scheme: “*speeding up the application of new knowledge in [farmer’s] practice*” (Greenport Duin- en Bollenstreek, 2023).

While the aforementioned amplification processes are all within the landscape, the partnerships are also already planning to amplify outside of the landscape via spreading. The insights of the field lab will be shared with the whole sector via workshops and demonstrations (Greenport Duin- en Bollenstreek, 2023):

“There are many initiatives such as ours, but the problem is that the information often stays among the [participating] bulb farmers. We are going to try to share it with the outside world in an open and transparent manner.” (Bulb farmer, interview in Olivier (2023a))

Currently, there is also a discussion on adapting the regional certificate to include dairy farming as well. This is similar to spreading and transferring (disseminating core principles and approaches) but instead of doing a similar initiative in a similar or dissimilar context, it happens in the same landscape (context), but is aimed at a different sector, problem, and/or goal. Therefore, we propose to call this type of amplification converting: ‘Taking an initiative, keeping its core principles but adapting these to a dissimilar sector/problem/goal in the same landscape’. This process is different from transferring, as the partnership itself, within the same geographical area, is focusing on a new sector and thereby developing new principles. In this case, it is a partnership which was initiated by bulb farmers and tailored to a specific agricultural sector in one region, which principles will be applied to another sector, but still in the same geographical region and thus context. It will be interesting to see whether this certification for dairy farmers will become part of the current partnership or will lead to the establishment of a new, independent partnership. From a biodiversity perspective, connecting different agricultural sectors in one landscape may be a transformative way forward. One of the theories that currently exists about the alleged ‘success’ of bird species like the yellow wagtail in the Bulb Region proposes that this can be explained by the mosaic structure of dairy and bulb farms in the region (Living Lab B7, 2024b). Another way in which there could be a connection between the two types of farming is via the use of locally produced manure on the bulb fields, which enhances biodiversity, but is currently difficult because of phosphate regulations that stimulate farmers to use compost.

Amplifying out of the landscape is also starting to take place, as the national association for bulb farming wants to transfer the certification scheme to other bulb regions. The concept has sparked enthusiasm at the provincial government and, via interprovincial collaboration, gained attention in other provinces. The strength of the scheme lies in its bottom-up approach, according to its partners: “*it is a beautiful way to create enthusiasm among entrepreneurs [bulb farmers], without having things being imposed upon them by the government*” (Bulb farmer, interview in Olivier (2023b)).

Moreover, what the farmers engaged in both partnerships, but especially in the certification scheme, are doing potentially strategically, is that they gear their actions towards complying with policy goals following from the Nitrate Action Program and the Water Framework Directive. Here we can observe the process of frame amplification. By deliberately amplifying the narrower frame of nature-inclusive or organic farming to sustainable farming, they align it with different policy goals and present the initiative as the solution to the problems perceived in that discourse. Via this process, the local and provincial governments became eager to support these partnerships in terms of financial and human capital. Their support is a key factor explaining why these two initiatives have started to amplify very quickly after their initiation. Frame amplification has led to more support, which in turn has enabled other forms of amplification, such as growth and spreading.

Thus, the partnerships are adapting to existing policy goals, rather than trying to influence these. Concerning changing values, both are more focused on showcasing sustainability than changing values of farmers or, for example, consumers, which is insufficient for changing values:

“That [the demonstration field] is a good initiative. And also especially a showcase to show what you are already doing” (Employee of an agricultural company (A2)).

While some of the young bulb farmers did show an interest in organic farming, and biodiversity is mentioned as one of the goals in the regional certification, biodiversity has not (yet) been converted into a concrete KPI. During growth and frame amplification, ambitions have been lowered due to alignment with policy goals, which are not necessarily focused on fundamental changes in agricultural practices or biodiversity, but rather on ‘concrete’ and single-issue top-down sustainability goals such as improving chemical water quality (Kager, Jansen and de Maijer, 2023).

5.4.2. Landscape elements partnership

Partnership under study

Landscape elements have been an essential part of rural landscapes for centuries. Not only did they have several functions, such as providing fuel and fencing of animals, but they also contributed to a biodiverse landscape by enhancing landscape complexity (Grashof-Bokdam and Van Langevelde, 2005; Cormont *et al.*, 2016; Rijdsdijk, 2022). Due to intensification (Collier, 2021) 60% of landscape elements in rural landscapes have disappeared over the last 100 years in the Netherlands (Deltaplan Biodiversiteitsherstel, 2022a), including around 225.000 kilometers of hedgerows (Dirkmaat, 2006). Bringing back landscape elements in Dutch rural landscapes could thus be a way to restore biodiversity, although it is a pathway that is opposite to the current development towards more efficient, large-scale agriculture.

The local nature organization Geestgrond has since 2017 been collaborating with farmers on bringing back landscape elements for biodiversity. Using the grey partridge as an indicator for biodiversity, the initiative was coined 'the partridge project' (Venderbosch and van Servellen, 2021; Venderbosch, Warmerdam and Van Servellen, 2024). These elements included hedges, wildflower strips, and shrubs and were complemented with measures for less disturbance and the provision of feed during the winter months (Van den Boogaard, Verbeek and Buizer, 2019). Volunteers approached farmers to collaboratively develop a list of suitable measures and aided them and private individuals in taking these measures, which could be partly financed via the project (ANLV Geestgrond, 2020). The project has resulted in (amongst other things) the planting of 6 km of hedges. In the Bulb Region, there used to be 270 km of hedges, which decreased to 10 km in 2000, and has increased (including these 6 km by the partridge project) to 20 km in 2024.

Based on the plans, goals, and achievements of this partnership, we expect them to potentially contribute to transformative change by changing values through enhancing enthusiasm for the intrinsic and/or relational value of bird species and biodiversity measures. Additionally, although not part of the IPBES definition of transformative change, but relevant in the context of biodiversity restoration, the partnership focuses on changing the natural-spatial conditions of the landscape.

Amplification processes

Within the partridge project, we observed amplifying within (stabilization), amplifying out (growing), and intentions to amplify beyond (changing values). A couple of years after the start of the project, bulb farmers became eligible for

payments for the planting and maintenance of hedges via agri-environmental schemes (AES). At this point, the agri-environmental collective de Groene Klaver (of which Geestgrond is a member) took over the coordination of landscape elements on farmland, and Geestgrond started to focus on planting hedges on land of private individuals. During the project, Geestgrond was able to attract different provincial funds to continue its work. Here, growth and stabilization go hand in hand. However, the growth of this project is limited. As the specific funds of the AES for partridge conservation in this area are depleted, additional provincial funding would be necessary to plant and maintain more hedges.

Another problem is the willingness of farmers to contribute to biodiversity conservation. While the partridge project set out to create more enthusiasm for biodiversity on farms, volunteers feel that “*there is a lack of intrinsic motivation*” (participant observation, nature organization (N2)) and a lack of knowledge among farmers to contribute to biodiversity (Venderbosch, Warmerdam and Van Servellen, 2024), while “*for that [more biodiversity/landscape elements] farmers really need to shift the way they are thinking*” (civil servant (G1)). In contrast, private individuals are more motivated to plant and maintain landscape elements on their land. However, Geestgrond also attributes this lack of motivation among farmers to contextual factors, such as the high land prices and the capital-intensive nature of bulb farming, which creates a situation in which financial risks quickly become very high (Venderbosch, Warmerdam and Van Servellen, 2024).

This lack of intrinsic motivation has hampered the growth of this partnership. In the Bulb Region, a restructuring of the landscape is taking place, organized by the Greenport Ontwikkelingsmaatschappij, a regional area-development company. Part of the funds that are created through the restructuring are dedicated to biodiversity conservation (Greenport Duin- en Bollenstreek, 2016). Geestgrond, together with the area-development company, came up with the idea to restore landscape elements on so-called “*overhoekjes*”, i.e., parts of bulb fields which are not suitable for production due to their location or shape. To fund this via the local restructuring funds, farmers would need to sign an official contract for maintenance, which, from their perspective, diminishes their control over their land and makes them reluctant to support this idea. To amplify, the partnership is stuck in a stalemate in which value change is needed for growth, but only a limited number of farmers is willing to engage due to a lack of motivation and the difficulty they experience in fitting biodiversity measures into their farm operations. Currently, measures are only taken on field edges. To have a substantive impact on biodiversity, measures on the field should be encouraged and facilitated as well.

But as the abovementioned situation shows, the partnership is far from able to realize this.

While the partnership itself is not actively pursuing frame amplification, frame amplification on the national level has helped the partnership to grow. The Deltaplan Biodiversiteitsherstel, a national partnership between governments, the farming sector, and nature organizations, is actively framing restoring landscape elements as a goal in itself, not only for biodiversity, but also for climate change and water quality (Deltaplan Biodiversiteitsherstel, 2022). The Deltaplan actively supports initiatives like the partridge project financially, and changes the focus from landscape elements as a means to protect specific species, like in the Dutch AES, to something with a value on its own. They are connecting the restoration of landscape elements to more policy goals than just biodiversity, thereby connecting to the different challenges within landscapes. This enhanced focus on landscapes and landscape elements is also reflected in the new Dutch National Program on Rural Area's which attributed extra resources to the restoration of landscape elements (Boezeman, Van Maaswaal and Silvius, 2024). The acceptance of the European Nature Restoration Law in 2024 may function as an additional push for the amplification of landscape elements.

5.5. Discussion

Our case study analysis aimed to advance our understanding of how the impact of landscape-oriented partnerships can be amplified, which strategies and conditions play a role in this, and how these amplification processes affect the contribution of these partnerships to transformative change for biodiversity. The research yielded insights on: 1) the diversity and interactions of amplification processes and conditions, and 2) the importance of combining different types of seeds and supportive policies of national, regional, and local governments for transformative change.

5.5.1. Interactions of amplification processes

Diverse amplification pathways

We have seen three partnerships that are amplifying through combinations of different amplification processes. We observed stabilization and speeding up (amplifying within) and growing, spreading, and transferring (amplifying out) in interaction with frame amplification (amplifying beyond). Moreover, we found a new form of amplifying out which we called converting and refers to 'taking an initiative, keeping its core principles but adapting these to a dissimilar sector/

problem/goal in the same landscape'. Hence, our cases offer support for expanding the typology of amplification processes by Lam *et al.* (2020) by adding the processes of frame amplification (amplifying beyond) and converting (amplifying out).

We also found several conditions that enable amplification, such as alignment with policy goals, farmer support, pressure from rules, regulations, and society, and financial support. As will be discussed below, these different strategies and conditions might enable amplification, but not always contribute to the transformative character of the landscape-oriented partnership and its impact.

However, the most important finding is that instead of being independent processes, amplification occurs through the combination of different processes, where one amplification process can be the enabling condition for another process. For example, two specific processes that were most prominent and seemed intrinsically linked are stabilization and growth. We call this process interactions of amplification, which emphasizes that the existing forms and types of amplification processes are not acting in isolation but are simultaneously or consecutively interacting with each other.

A lack of value change and institutionalization

The crux in the amplification of seeds for transformative change could be in the combination and interaction of different amplification processes, where value change and institutionalization seem key to being transformative. A study by Fleury *et al.* (2015) showed that farmers who implemented a new, results-based agri-environmental measure for non-instrumental reasons, such as relational or intrinsic values, altered their farming practices. In contrast, farmers who justified their choice for implementing this measure based on instrumental values did not alter their practices. Thus, promoting and embedding non-instrumental nature values within partnerships could be key to contributing to transformative change. However, this may also come at the cost of losing actors involved or support from (higher) government levels who are not supportive of non-instrumental values of nature and therefore impede processes of amplifying within and out.

This challenge was clear in our cases, in which value change and its institutionalization appeared to be most challenging. This can be explained by the fact that in a partnership with many different actors, support of partners is necessary, and they therefore tend to try to connect to pre-existing values rather than changing these. Institutionalization did not seem to be an objective of any of the studied partnerships, as we did not observe actions aimed at changing rules,

norms, or protocols. The bulb farming partnerships rather functioned as instruments for implementing higher-level policy goals in a locally adapted way. Farmers see this as a deliberative strategy to avoid top-down interventions: by showing that local actors are implementing, and ideally also achieving, these higher-level policy goals in a locally suitable and accepted way, the farmers assume that this will prevent stricter and less favorable policies for bulb farming.

Frame amplification: A double-edged sword

The bulb farming partnerships show that for amplification processes, especially outside of the landscape, more/powerful actors need to be engaged. By framing the partnerships more broadly in terms of sustainability (frame amplification) and connecting to a variety of policy goals (e.g., water, climate change), the initiators were able to gather more support and partners than they would probably have had if the main goal had been biodiversity. This could be seen as a ‘fit and conform’ strategy, in which the sustainability ambitions are lowered to increase the chance of amplification (Smith and Raven, 2012).

In the case of the partridge project, frame amplification on a national and provincial level, in which landscape elements are framed as not just a means to restore biodiversity but also a means to restore landscapes as a goal in itself, might lead to new policies which have the potential to amplify the current restoration of landscape elements in the Bulb Region. In comparison with the previous example, the frame amplification in this case leads to a process of ‘stretch and transform’, in which the discursive institutional context in which the partnership operates changes and thereby enables the partnership to amplify (Smith and Raven, 2012). Thus, frame amplification can either have a positive or negative impact, with the risk of inducing lower ambitions leading to a lesser contribution or no contribution at all to transformative change (Pel and Bauler, 2014). Moreover, frame amplification is a good example of an amplification process that can be a strategy and condition, dependent on ‘who’ is amplifying the frame.

These frame amplification processes show that governments can play a significant role in constructing the goals and boundaries for the amplification of landscape-level partnerships. If their objectives are framed in a narrow, status quo, and thus non-transformative manner, this means that through amplification, the transformative potential of the partnerships will decrease. This shift in focus or goals during amplification processes such as frame amplification can also be explained by the fact that throughout amplification, the direction of an initiative such as a partnership becomes harder to control, and this could eventually even lead to alienation of the original founders and their principles (Sherwood, Schut

and Leeuwis, 2012; Moore *et al.*, 2014; Smith, Fressoli and Thomas, 2014; Hermans, Roep and Klerkx, 2016). In a way, this is a natural process, as the ideas underpinning a partnership initially are reinterpreted by all the different actors in and outside of the partnership through the amplification process (Pel and Bauler, 2014).

Risk of stabilizing unsustainable practices

This problem of decreasing transformative potential through amplification processes relates to criticism by Lam *et al.* (2022) and Feola (2015) on the stabilization of seeds within an unsustainable system. They argue that this process can hamper transformative change and contribute to continued unsustainability. In the case of bulb farming, there is certainly a risk that the regional certification will aid in legitimizing current unsustainable practices if it does not stimulate farmers to reach higher sustainability standards and adopt new practices, for example, those that will be tested on the demonstration field and in the field lab. Currently, the focus in the bulb farming partnerships is mainly on technological innovation, which can lead to further path dependency on the current export-oriented, productivity-focused, capital-intensive pathway in which there is little attention for biodiversity (Van Den Ende *et al.*, 2024). With path dependency, we refer to a process in which the history of a system, in combination with self-reinforcing feedbacks that developed throughout that history, keeps the system in a certain state (Pierson, 2000; Appel, 2018). Due to this potential furthering of path dependency, it is questionable whether these partnerships will become seeds of change after all.

5.5.2. Implications for transformative landscape governance: three recommendations

The necessity of combining distinct types of seeds

It seems that partnerships become successful in amplifying when they are less transformative, as this means that they are better aligned with existing, incumbent discourses, policy goals, and actors. On the other hand, partnerships such as the partridge project, which did not aim to fundamentally change the agricultural system, can nonetheless be transformative if, through growth, replication, transferring, or spreading of such partnerships, landscape elements would become present throughout agricultural landscapes in the Netherlands. Not only would this have an impact on biodiversity, but this would also consequently entail changes in agricultural practices. Transformative change might therefore require a combination of more and less radical seeds.

Radical seeds, such as the only full-organic bulb farm in the Netherlands, show that an alternative is possible, but are difficult to amplify because conventional farmers perceive this as non-feasible (**chapter 4**, de Koning, 2024). Less radical seeds might have a less profound effect on biodiversity, but are easier to amplify, and can therefore, as a whole, have an accumulated transformative impact as well (Pel and Bauler, 2014). This relates to the work from Westerink *et al.* (2023) in which they see three different roles for networks in transformative change: to collaborate, challenge, and disrupt. Radical seeds are probably more apt at challenging and disrupting current unsustainable systems. While the organic bulb farm can be seen as challenging the current system, court cases in other places in the Netherlands about pesticide use in bulb fields near houses could be seen as examples of disruptive seeds (Bollenboos, 2023; Rutting *et al.*, 2023). To enable transformative change for biodiversity in rural landscapes, one could say that a diversity of initiatives adopting these different roles must be sought.

The need for transformative policies at higher levels

Another critical issue identified in this study is the role of different levels of government. The responsibility for environmental issues is increasingly transferred to local levels, not only in biodiversity conservation, but also, for example, in the field of energy (Fudge and Peters, 2009; Fudge, Peters and Woodman, 2016). Our study shows that landscape-oriented partnerships in the context of the Netherlands are dependent on the support of government, in this case, especially the national and provincial government. Top-down instruments such as rules and regulations can have a ripple effect and spur local collaborations for sustainability, while at the same time forcing different types of actors to change (e.g., farmers or local governments) (McPhearson *et al.*, 2021). In our case study, we saw, for example, that forthcoming pesticide and water legislation spurred the development of the regional certification scheme. However, as discussed in the previous section, these policies also steered this partnership towards a narrow vision of sustainability, including narrow KPIs. Transformative governance approaches, which include inclusive, integrative, adaptive, transdisciplinary, and anticipatory approaches, could help to make top-down instruments more supportive of partnerships that are trying to contribute to transformative landscape governance (Visseren-Hamakers *et al.* 2021; **chapter 2**, de Koning *et al.* 2023). For example, governments could make more integrated policies that not only focus on environmental targets (like phosphate levels in groundwater), but also enable farmers to become more sustainable or enhance the market demand for sustainable products.

Thus, for transformative change, transformative policies at these levels are necessary, and by combining these with landscape-oriented partnerships, the risk

of underutilizing the power of place-based and locally adapted seeds for sustainability can be avoided (Bours, Wanzenböck and Frenken, 2022).

The supportive role of regional and local governments

Supporting landscape-oriented partnerships could be a suitable strategy for governments, such as provinces, who could facilitate amplification through regulatory experiments and innovation platforms, and communicate the knowledge and experiences gained through the partnerships to higher-level policy making (Bours, Wanzenböck and Frenken, 2022). However, municipalities could also play a significant role, depending on the context. In our case study, municipalities support the partnerships via both financial and human capital through existing partnerships such as the Greenport. Sellberg *et al.* (2020) showed that among seeds for sustainable food in Sweden, seeds had the most confidence in municipalities to support change in comparison with other governance levels. In the Dutch and Swedish context, this level of government could thus play an important role, which may differ among countries, and probably also within countries.

5.5.3. Study limitations and future research

In this study, we focused on the amplification of the work of landscape-oriented partnerships as seeds for a sustainable, biodiverse future in an agricultural landscape. Our study was limited to three landscape-oriented partnerships in a highly specific context, followed over a limited period in which two of them had just started (regional certification scheme and demonstration field), and therefore, their long-term impact could not yet be assessed. In this study, we have therefore focused on both their current activities and the plans they have been making for the future. For our results, this means that some of the processes we observed have not yet finished, and we can therefore in these cases only draw conclusions on the factors that have influenced the initiation of these amplification processes. Moreover, we might not have been able to explore the full spectrum of amplification processes, as some, like, for example, value change, might take more time.

By studying the partnerships over several years, we saw that their amplification led to the initiation of a new partnership (e.g., the field lab) and changes within the partnerships (for example, the converting process within the regional certificate). Where one partnership ended and the other started appeared to be more fluid than expected. Thus, in the future study of seeds, we propose an approach in which, instead of a particular initiative, we follow the new “*social, technological, economic, or social-ecological ways of thinking or doing*” itself (p. 442, Bennett *et al.*, 2016),

who can be amplified in many ways (e.g., new behaviors, policies) and take on different forms (e.g., a partnership, a protest group, or a new discourse).

5.6. Conclusion

Through studying the amplification of landscape-oriented partnerships for biodiversity in the Dutch Dune and Flower Bulb Region, we have made several contributions to the seeds and amplification literature. First, we have developed and identified two new amplification processes: frame amplification and converting. Second, we show that instead of different, independent amplification processes, there is an ongoing interaction between processes leading to interactive amplification. In this interactive amplification, the particular combination of amplification processes determines the contribution to transformative change. Stabilization and growth are intrinsically connected, but do not necessarily lead to an increased contribution to transformative change. Value change appears to be a necessity for all other forms of amplification to be transformative, while frame amplification can either aid or inhibit the transformative impact of partnerships that are amplified. Third, we show that the most important condition determining amplification seemed to be alignment with policy goals. As most policies, rules, and regulations relevant to the farmers are very specific, the partnerships also become narrowly focused, which hinders a transformative, integrated landscape approach.

Based on the results, we propose several ways forward for transformative change in rural landscapes. For transformative change, we need several types of seeds, from collaborative ones such as partnerships to more disruptive ones, like initiatives for strategic litigation. Additionally, there is a vital role for national, regional, and local governments in developing transformative policies at higher levels and providing local support for seeds.



6 Conclusion and reflections

The choices of our ancestors have formed the landscapes of today. Let's make good and bold choices in creating the landscapes of tomorrow.

Landscapes are not just a backdrop for the stories of our lives, but they have a profound influence on us in many ways (Burenhult and Levinson, 2008). What we culturally, or in our social contexts, perceive as a landscape often does not match the jurisdictional delineations of landscapes (Cash *et al.*, 2006). One proposed way forward to govern such landscapes is via landscape governance, which “*deals with the interconnections between socially constructed spaces (the politics of scale) and “natural” conditions of places*” (p. 954, Görg, 2007). An example of how landscapes can be governed is via voluntary, collaborative arrangements such as landscape-oriented partnerships. In this type of governance, steering at the landscape level is central.

Biodiversity is one of the many challenges that are currently addressed via landscape governance. Biodiversity is declining rapidly throughout the world, and current scientific evidence suggests that over 1 million species are already facing extinction (IPBES, 2019). Agriculture is one of the main drivers of this loss of biodiversity due to the conversion of natural areas to agricultural areas and pollution of the environment through the use of pesticides and fertilizers (Ortiz *et al.*, 2021; Richardson *et al.*, 2023). There is an increasing consensus in science and policy that we need to go beyond addressing such direct drivers of biodiversity loss, such as habitat loss and pollution, and address the underlying societal root causes of these drivers (Osborne *et al.*, 2021; Pascual *et al.*, 2022). Hence, as was elaborated in **chapter 1**, we should also address the *indirect* drivers of biodiversity loss. For biodiversity, these are, for example, farming subsidies that stimulate intensification or discourses that prioritize economic development over human and non-human welfare (Mupepele *et al.*, 2021; IPBES, 2024). This focus on indirect drivers is the core of the concept of *transformative change*, which refers to fundamental changes in society (Feola, 2015; IPBES, 2019). Transformative change is currently seen as essential to bend the curve of biodiversity loss (IPBES, 2019; Bulkeley, Kok and Van Dijk, 2020; Meijer *et al.*, 2021; Pascual *et al.*, 2022).

We have seen that landscape-oriented partnerships are promoted as governance arrangements that can contribute to transformative change (Meijer *et al.*, 2021; Nishi *et al.*, 2021). However, scientific evidence on to what extent and how landscape-oriented partnerships can contribute to such change is scarce. Thus, though it is known that landscape governance can contribute to developing locally fitting strategies and solutions for spatially integrating production, consumption,

and protection of biodiversity (van Oosten, 2021; Bennett *et al.*, 2022), we do not know whether landscape-oriented partnerships can also contribute to transformative landscape governance for biodiversity.

In this thesis, my aim was therefore to unravel the transformative potential of landscape-oriented partnerships. In other words, are these partnerships useful arrangements for addressing the indirect drivers of biodiversity loss, and if so, under what conditions? To answer this question, I developed the following sub-questions:

1. *To what extent and how do landscape-oriented partnerships address indirect drivers and support and implement transformative governance approaches? (chapter 2 and 3)*
2. *Which conditions influence the potential for transformative change at a landscape level? (chapter 4 and 5)*
3. *How does the interplay between the agency of landscape-oriented partnerships and the discursive institutional context in which they operate impact their transformative potential? (chapter 5)*

These questions were answered by using and combining the transformative governance framework (Visseren-Hamakers *et al.*, 2021; Visseren-Hamakers and Kok, 2022), discursive institutional theory (Schmidt, 2010) and amplification theory (Lam *et al.*, 2020).

The transformative governance framework is based on a large body of literature on transformations, transitions, and environmental governance (Visseren-Hamakers *et al.*, 2021). Based on a review and a later refinement, five governance approaches are deemed necessary for deliberately steering towards transformative change: integrative, inclusive, adaptive, transdisciplinary, and anticipatory governance (Visseren-Hamakers and Kok, 2022). These different approaches have been operationalized via different principles (see Table 1 in section 1.2.2.) (Visseren-Hamakers *et al.*, 2021). The five approaches should be implemented in conjunction and always be focused on addressing the indirect drivers of the sustainability issue at hand, such as biodiversity loss (Visseren-Hamakers *et al.*, 2021). The transformative governance framework is a prescriptive framework, which I used in my thesis to analyze to what extent and how landscape-oriented partnerships can potentially contribute to transformative change.

For studying transformative change itself, I used discursive institutional theory (Schmidt, 2008a). Discursive institutionalism assumes that while institutions

constrain the agency of actors by determining the “*ideational rules*” or “*rationality of a setting*”, actors are also able to reflect on institutions and consolidate or change institutions (p. 314, Schmidt, 2008a). In reality, institutional change is often not linear, but rather messy, as it is complex and influenced by many different factors (Kaufmann and Wiering, 2021). If institutions are changed fundamentally, instigated through the emergence and institutionalization of transformative discourses, this can be regarded as transformative change.

To combine the focus on the governance of partnerships itself, their contribution to transformative change, and the conditions that enable them to become (more) transformative, I used amplification theory (Lam *et al.*, 2020). Amplification theory has outlined different ways in which initiatives such as partnerships can enhance their impact, for example by speeding up their efforts, replicating their initiative, or contributing to value change.

I have used and combined these theories in the different parts of this thesis. In part 1 *Transformative governance* I used the transformative governance framework to study the potential contribution of landscape-oriented partnerships to transformative governance for biodiversity. I reviewed research on 214 partnerships worldwide (**chapter 2**) and performed a q-methodology analysis on a partnership-based national park in the Netherlands called National Park Hollandse Duinen (**chapter 3**) to better understand to what extent and how landscape-oriented partnerships are currently contributing to transformative change. In the latter, the discursive perspective enabled me to study the discourses that partners articulate on the governance of the park, which influence to what extent the partnership could become transformative.

In part 2 *Conditions for change* I took an institutional perspective on partnerships (Van Huijstee, Francken and Leroy, 2007) to not only focus on what partnerships are doing and aiming for (such as in **chapter 2** and **3**), but also study the conditions that influence their transformative potential. I zoomed in on one particular landscape within National Park Hollandse Duinen, the Dutch Dune and Bulb Region. This landscape is characterized by the combination of dunes along the coast and a hinterland with several towns, flower bulb farms, and dairy farming. The main sustainability challenges in this landscape relate to flower bulb farming, a non-food farming sector that is characterized by the use of high amounts of pesticides. With regard to biodiversity, there is a strong focus on birds, such as the grey partridge (*Perdix perdix*) and the yellow wagtail (*Motacilla flava*). These so-called ‘bulb birds’ are doing relatively well in this landscape compared to other landscapes in the Netherlands, and are regarded as typical for the Bulb Region.

In the Bulb Region, I studied three partnerships that work on biodiversity and more sustainable bulb farming: a regional certification scheme which aims to set higher sustainability standards for bulb farming, a bulb farming demonstration field where experiments with ‘nature-inclusive’ and ‘extensive’ bulb farming takes place and the so-called partridge project which focuses on restoring landscape elements. I studied how existing and institutionalized discourses on the landscape can hamper or facilitate transformative change (**chapter 4**), how partnerships that are active in this landscape are amplifying their impact, and which conditions can help them to become more transformative (**chapter 5**). Through the use of a discursive institutionalist lens and empirical findings, I was able to add two extra processes to the existing amplification processes framework.

In this concluding chapter, I will first discuss six overarching insights of this thesis. Second, I will reflect on the study limitations, the embedded case study and the use of transdisciplinary research for studying transformative change. The last section is dedicated to the future of our landscapes and provides suggestions for policymakers and conservationists

6.1. Six important insights from this study

1. Landscape-oriented partnerships have a limited transformative potential

One of the key questions of this study was whether landscape-oriented partnerships can contribute to transformative change through transformative governance. My main finding is that landscape-oriented partnerships do not fully live up to the ideals and principles of transformative governance, and hence, only have a limited transformative potential.

A first reason for this conclusion is that landscape-oriented partnerships do not seem to address the indirect drivers of biodiversity loss. In the review of this type of partnership throughout the world (**chapter 2**) I found that only 49% of the included partnerships tried to address indirect drivers. Moreover, there is no substantial evidence on whether they really succeed in changing these drivers.

A second reason for this conclusion is that partnerships do not seem to (be able to) use all elements of transformative governance introduced by Visseren-Hamakers *et al.* (2021) and Visseren-Hamakers and Kok (2022). The review showed that

integrative and inclusive approaches are commonly used in partnerships, but that adaptive, transdisciplinary, and anticipatory approaches are rarer.

To analyze why some of the transformative governance approaches are less often implemented, the q-methodology study in **chapter 3** focused on governance discourses on the partnership National Park Hollandse Duinen. This gave insights into the perspectives of the park's partners on the values that should underpin the park, the drivers that the park should address, and the governance approaches that the park should use. This study shows that in the case of National Park Hollandse Duinen, three out of five approaches (i.e., adaptive, transdisciplinary, and anticipatory governance) were seen as non-relevant or non-feasible for the landscape-oriented partnership by the partners in three out of four park discourses. Adaptive governance was perceived as unnecessary or too burdensome, for example, because the goals of the partnership were already perceived as fitting, and partners preferred action over too much reflection. Transdisciplinary research was also deemed unnecessary by many partners, as a lack of knowledge, better knowledge production, or engagement of citizens was not seen as an issue in the park context. Anticipatory governance was also seen by most partners as something nice to have, but not urgent to reach the goals of the park. Others saw the park already as future-oriented, so they did not feel like this should be made more explicit in the park's governance.

Another explanation of why some of the transformative approaches were not included in the governance discourses on National Park Hollandse Duinen, and potentially also not implemented in the partnerships reviewed in **chapter 2**, was that some of the approaches were perceived as contradictory by the partners of the park. A more emancipatory approach to inclusiveness was, for example, seen as contradicting transdisciplinary approaches. Partners perceived that empowering certain actors does not go hand in hand with including different perspectives in the park, as empowering was associated with the prioritization of a certain perspective. Thus, partners prefer a focus on pluralism, rather than a 'coalition of the willing' (Visseren-Hamakers *et al.*, 2022), including only partners that prioritize biodiversity.

Notwithstanding these limitations, in **chapter 2** I did find some partnerships that aligned with several transformative governance approaches (Visseren-Hamakers *et al.*, 2021). The examples I found shared the following characteristics: 1) they combined ecologically and socially-oriented strategies (e.g. focused on ecological restoration and community development), 2) they focused on changing the governance of biodiversity (e.g. developing new governance arrangements), 3) they connected with different levels of decision-making (e.g. influencing national

policies), and 4) they monitored and adapted their approach according to the circumstances (e.g. trying new restoration approaches). These examples showed how these theoretical approaches can be operationalized in practice, as they are concrete ways in which landscape-oriented partnerships can be integrative (1 & 3), transdisciplinary (2), and adaptive (4).

Interestingly, some of the partners in the National Park perceived ecological and social strategies as trade-offs (**chapter 3**), thus not supporting the abovementioned first characteristic. However, in **chapter 5**, I did see examples where the partnerships under study seem to combine social and ecological strategies. For example, by focusing on changes in agricultural practices, which involve behavioral changes and can potentially have an ecological impact. However, to what extent these strategies can be regarded as ‘social’ depends on the applied definition. The bulb farming partnerships are mainly focused on maintaining a license to operate for the farmers via monitoring, benchmarking, and experimenting with more sustainable farming practices. By doing this, they are contributing to maintaining the open landscape, which is desired by many people in the landscape (**chapter 4**). Moreover, they also discuss, but do not explicitly address, other concerns such as biodiversity and health (**chapter 5**). Thus, the broader community is not directly involved, but their concerns are (partly) being addressed by the partnership. In the partridge project, the broader community is directly involved, for example, via bird counts, informative evenings, and the possibility of planting hedges on private lands via subsidies arranged through the partnerships. In practice, this is limited to a small group of members of the partnership itself.

An important question in unravelling the transformative potential of landscape-oriented partnerships is the role of the ‘landscape’ element of the partnerships. In the case of the National Park (**chapter 3**), partners came together because of the shared interest in the landscape. However, the findings of the q-study also indicate that this landscape focus can lead to an unwillingness or perceived inability to address drivers of biodiversity loss outside of the landscape. Thus, while the discourse analysis in **chapter 4** shows that focusing on a specific landscape can bring together a wide variety of powerful and relevant stakeholders and seems to ‘naturally’ lead to integrative governance, a landscape focus in itself is not enough basis for transformative action.

This also applies to the clear link with ‘tangible’ biodiversity issues that most partnerships had in **chapter 2**. While it is important to address urgent issues on the ground, solely focusing on tangible issues might also hamper a partnership’s potential to address indirect drivers of biodiversity loss, which are important but

less visible. Interestingly, while three out of four discourses on National Park Hollandse Duinen state that the National Park should not focus on concrete nature projects, these park discourses are still focused on issues within the landscape, and don't see the partnership as a way to address issues from outside the park that impact the biodiversity in the park (**chapter 3**). To become more transformative, my research revealed that landscape-oriented partnerships should focus more on the indirect drivers of biodiversity loss in their landscapes, even when these drivers lie outside of the landscape. Thus, a landscape-orientation should not mean focusing only on the landscape itself, but using the landscape as a starting point to understanding the necessary changes for protecting biodiversity.

This limited transformative potential leads to the question of whether we, as academics, policymakers, but also citizens, should actually promote, support, and take part in landscape-oriented partnerships. If they are not fully transformative, should we stop promoting them? Based on the different chapters, I would argue against this, as I see two important reasons why partnerships *can* contribute to transformative change.

First, partnerships can play a role in finding appropriate solutions or pathways for the local implementation of transformative goals and values (**chapter 5**). The bulb farming partnerships are for example doing this by developing a local benchmarking system and experiments with alternative farming practices to comply with legislation developed by the European Union. Second, landscape-oriented partnerships seem – to a certain extent – apt to contribute to integrative and inclusive approaches and in some cases combine different approaches (**chapter 2** and **3**), although not necessarily focused on the indirect drivers (**chapter 2**). In the National Park case, it was clear that most partners saw the partnership as way to enhance integration and inclusion in the park area to protect biodiversity and the landscape, but regarded the other approaches (adaptive, transdisciplinary and anticipatory) unnecessary for reaching the goal of the park or not as part of the park's responsibility.

2. Landscape-oriented partnerships need support from outside the landscape

While this thesis shows that the transformative potential of landscape-oriented partnerships seems limited, it also shows that this potential is partly determined by the conditions under which they operate. The findings from this thesis show that to be able to be transformative, landscape-oriented partnerships are not only

dependent on existing and new discourses and institutions in the landscape in which they operate, but also need support from outside the landscape.

In **chapter 4** I have studied the role of landscape discourses as discursive conditions in enabling and constraining transformative change within the Bulb Region. This study, in combination with the study I conducted in **chapter 5**, suggests that landscape-oriented partnerships are prone to be dominated by existing landscape discourses. These existing landscape discourses not only dominate the debate around nature and agriculture but also have a profound impact on the possibilities for both farmers and conservationists to change current land use practices for the benefit of biodiversity, as these discourses are institutionalized in the local spatial planning rules. Thus, such landscape discourses can, if they are not transformative, negatively influence the transformative potential of landscape-oriented partnerships and other initiatives in this landscape.

In total, I found three discourses: a hegemonic one, an emergent one, and an unstructured one. The hegemonic one has been institutionalized for a long time, and still forms the basis of the existing policies in the region about agriculture, nature, and spatial planning. In this discourse, the open landscape that is formed by bulb farms is cherished. Any pressure on bulb farming, for example, by plans to build houses on bulb farms or stricter regulations for bulb farming, is seen as a threat to the desired landscape. Thereby, this landscape discourse opposes transformative changes in the landscape. The emergent discourse is focused on the entrepreneurship of bulb farmers, thereby stressing the need for farmers to adapt to changing circumstances, like stricter environmental legislation. This discourse certainly supports a transition towards lower-emission agriculture. However, this discourse hinders more transformative changes, such as a shift towards nature-inclusive or organic agriculture. The unstructured discourse is focused on completely different values, namely biodiversity and health. To the people supporting this discourse, a healthy environment for nature and people should be central, which could also include a less open landscape or an agriculture sector not focused on bulbs. While the hegemonic discourse is already institutionalized and the emergent discourse is becoming increasingly institutionalized as well, the unstructured discourse is not impacting any existing or emerging institutions in the landscape.

The hegemonic and emergent landscape discourses in the Bulb Region appeared to be very stable due to different reasons, such as the institutionalization of the discourses in spatial policies, the support from powerful actors, and the intricate

relation between landscape discourses and non-discursive characteristics of the landscape (such as natural-spatial conditions, structure of the agricultural sector, and embeddedness in international trade). Thereby, these discourses hindered the development of transformative discourses within the landscape. Apart from conflicting with stable hegemonic discourses, transformative discourses might be difficult to develop at a landscape level for three reasons. First, transformative discourses consider relevant changes beyond the landscape level, changes which can be perceived by landscape actors as out of reach for a landscape-oriented partnership. Second, transformative discourses promote fundamental changes, which are likely to harm vested interests within the landscape. Third, I found that even when transformative ideas are present, such as within the unstructured discourse on biodiversity and health, stakeholders held conflicting ideas about the ideas themselves and their operationalization (**chapter 3**). For example, whether we must move towards organic bulb farming, or whether bulb farming in itself is unsustainable. Thus, this discourse lacked consensus and coherence. The chance that such transformative discourses will lead and/or influence the work of landscape-oriented partnerships seems low, as the partnerships under study are focused on maintaining consensus and support among the different partners.

However, **chapter 4** also indicated that landscape-oriented partnerships can be influenced by (transformative) discourses outside of the landscape, such as more general discourses on agriculture and nature. These partnerships are, of course, also influenced by existing institutions, such as existing formal rules about trade (e.g., phytosanitary requirements), the current system for agro-environmental payments, and regulations on land tenure. Thus, interactions between different governance levels and the presence of transformative discourses are key to ensuring a contribution to transformative change at the landscape level. This also indicates that we should not expect landscape actors to be the sole initiators of transformative change in the landscape, but realize that their potential depends on an interplay with other developments and initiatives at different levels.

An important institutional condition that influences the transformative potential of landscape-oriented partnerships is the dependence of such partnerships on decisions taken at higher levels (van Oosten, 2021). In the case of the Bulb Region, changes in legislation or a new policy course after the establishment of a new national government are a perpetual threat that constrains partnerships from developing a steady course of action (**chapter 4** and **5**). External threats, such as provincial plans to build houses in the Bulb Region, are 'used' by actors as arguments to provide extra legitimacy for the current landscape discourse that focuses on maintaining an open landscape, thereby rejecting any sustainability

measures that could potentially affect current bulb farming practices. This external threat thereby stabilizes this discourse, making it more difficult for alternative, more transformative discourses to emerge and become institutionalized (**chapter 4**). Other relevant institutional conditions even go beyond the national level, such as international trade agreements, phytosanitary requirements, and policy developments at the EU level, such as the current changes in the original plans of the EU Green Deal. And while the focus on the landscape-level itself can help partnerships in dealing with the mismatch between jurisdictional scales and the scales of ecosystems, habitats, or what is perceived as a coherent landscape (Cash *et al.*, 2006), the jurisdictional void between provinces and municipalities in which they find themselves, since they often include areas in different municipalities, can also hinder their transformative potential.

When looking at the transformative potential of landscape-oriented partnerships, including the conditions that may influence their transformative potential, I conclude that landscape-oriented partnerships have a role to play, but need to be supported by transformative discourses and policies to have a transformative impact within the landscape.

3. Landscape-oriented partnerships must be complemented by other policy instruments to realize transformative change

As discussed in insight 1, it is not likely that landscape-oriented partnerships are able to contribute to all the changes that are necessary to bend the curve of biodiversity loss. Their contribution, such as their potential to locally implement transformative policies, should be complemented by other policy instruments to realize the required transformative changes.

Chapter 2 and **3** showed that most landscape-oriented partnerships seem unable to combine all the transformative approaches as outlined by the transformative governance framework, and focus them on the indirect drivers of biodiversity loss. I therefore suggest that we should see the transformative potential of partnerships not as something which we can assess in isolation, by only looking at the partnerships themselves, but by looking at them in conjunction with other potential strategies to contribute to transformative change, such as protests or new laws and regulations (Arponen and Salomaa, 2023). As discussed in different chapters in this thesis, landscape-oriented partnerships are useful policy instruments to enhance collaboration, but for transformative change we also need to challenge and disrupt (Westerink *et al.*, 2023).

While landscape-oriented partnerships tend to focus on collaboration, thematic or issue-oriented partnerships could play a role in challenging and disrupting unsustainable practices. For example, as part of a network, NGOs can work both in a collaborative way, by involving citizens and developing local sustainability initiatives, and use these activities as part of advocacy programs (Buijs *et al.*, 2023). Becoming involved in strategic litigation (Phelps *et al.*, 2021) could be a way in which thematic partnerships could take on a disruptive role. In other ‘bulb regions’ in the Netherlands, there have been court cases in which bulb farmers were forced to stop growing lilies near houses or were not allowed to use certain pesticides anymore because of safety concerns around the impacts of pesticides on humans. These cases were won by citizens collaborating with a national NGO that had experience with strategic litigation, and these cases contributed profoundly to the discussion in the Netherlands around bulb production and pesticide use (Bollenboos, 2023).

It is also interesting to look at landscape-oriented partnerships as a suitable policy instrument for a certain stage of transformations. By combining the works of Cashore and Bernstein (2020) on different types of problem conceptions and the work of Diercks *et al.* (2020), Visseren-Hamakers *et al.* (2022) developed a framework in which different types of governance play a role in different stages of transformations. According to this framework, collaborative forms of governance, such as landscape-oriented partnerships, can contribute to the development and institutionalization of new discourses, but are less likely to contribute to what they refer to as the ‘phasing out’ phase of transformations, which involves the breaking down of existing institutions that are unsustainable. This seems to align with my findings **chapter 4**, which shows how bulb farmers develop a new discourse on the landscape that fits better with changing societal demands and increasingly strict environmental legislation. Thereby, the partnerships may contribute to an early stage of transformation, but not to phasing out. As mentioned in the previous paragraph, court cases against bulb farmers that farm lilies, a vulnerable species that requires more pesticide use than other bulb species, might potentially contribute to the phasing out of species and varieties that might be too vulnerable to produce without (high amounts of) pesticides.

The idea of combining different policy instruments is not new. There have been many studies, for example in the environmental governance literature, that show the importance of (governing) policy mixes (Gunningham, Grabosky and Sinclair, 1998; Howlett and Rayner, 2007; Biermann *et al.*, 2010; Visseren-Hamakers, 2015; Kern, Rogge and Howlett, 2019; Capano and Howlett, 2020). Currently, the importance of policy mixes is also stressed in the literature on transformative

change and governance (Rogge and Reichardt, 2016; Kelemen *et al.*, 2023). A specific framework focused on transformative change is the ‘archetypical governance pathways for transformative change’ (Termeer, Dewulf and Biesbroek, 2024). This framework assumes that there are three types of change that are needed to realize transformative change: in-depth change, quick change, and system-wide change. The fact that we rarely observe ‘full’ transformative change, as is also the case in this dissertation, can be attributed to the idea that no policy instrument or strategy can simultaneously realize these three types of changes (*ibid*). Thus, different policy instruments and strategies need to be combined.

For in-depth and quick change, small wins can be the right approach (Termeer and Dewulf, 2019). Landscape-oriented partnerships could be a suitable instrument to work on small wins, though the results of this study show that creating in-depth change is a big challenge. Quick and system-wide change can be achieved by rule changes, something which landscape-oriented partnerships could aspire to, but might not be the most suitable instrument for (see previous paragraph). Changing rules is probably more relevant as a condition for landscape-oriented partnerships to realize transformative change on the ground (**chapter 5**). In-depth change and system-wide change can be realized through big plans. Examples of big plans are large-scale infrastructural ‘megaprojects’, such as the Dutch Delta Works, but they can also involve changes to land use planning or a nationwide new approach to water safety, as was the case in the Dutch ‘Room for the River’ project. While landscape-oriented partnerships are not likely to develop big plans themselves, they can be influenced and supported by big plans, such as the Aanvalsplan Landschap (Deltaplan Biodiversiteitsherstel, 2022). This plan, which was developed by the Deltaplan Biodiversiteitsherstel, a national partnership between governments, nature organizations, and the agricultural sector, aims to realize landscape elements on 10% of agricultural lands in the Netherlands. To do so, they provide financial and other types of support to local actors and partnerships, such as the partridge project in the Bulb Region (**chapter 5**).

Thus, while there is a strong focus on collaboration in the literature on transformative change, we should also focus on how to change policies and regulations and how we can initiate and realize ‘big plans’ that benefit biodiversity conservation and enable transformative change towards sustainability. Thereby, we could look at a potential role of landscape-oriented or thematic partnerships, but also especially at other types of organizations and policy instruments, thereby not overlooking the role of the government(s) itself. A challenge for future research would therefore be to develop a research design in which the impact of policy instruments on transformative change could be compared, including the

interactions between, and combinations of, these policy instruments and strategies. For partnerships themselves, this means that they can strategically position themselves within a network or governance mix, in which they are aware of the complementary role they can play in this context.

4. Transformative landscape governance should be holistic, emancipatory, and reflective

While studying transformative governance in the context of landscape-oriented partnerships, I found that the different ways in which partnerships follow transformative governance principles could be grouped into three governance approaches, rather than the five proposed in the original framework. Furthermore, these governance approaches could be better tailored to the context of landscape governance. Therefore, instead of analyzing and promoting the role of landscape-oriented governance in integrative, inclusive, adaptive, transdisciplinary, and anticipatory governance, I propose to study and promote holistic, emancipatory, and reflective governance as ways in which landscape-oriented partnerships can contribute to transformative landscape governance.

The transformative governance framework was a useful starting point to unravel the transformative potential of landscape-oriented partnerships. However, there are several questions remaining regarding the use of the framework in general, and also specifically in the context of landscape-oriented partnerships. One of them is related to the question of whether one governance arrangement, such as a partnership, should align with all the transformative governance approaches (integrative, inclusive, adaptive, transdisciplinary, and anticipatory governance) to be transformative.

The original framework states that all the different governance principles should be implemented in conjunction and should be focused on indirect drivers (Visseren-Hamakers *et al.*, 2021). However, I saw that most landscape-oriented partnerships do contribute to one or several transformative governance approaches, but none to all of them (**chapter 2**). In **chapter 3** I also saw that the partners preferred a focus on one, two, or three approaches, rather than on all five. When evaluating the park discourses, this left me with the question whether a discourse that focuses on only a part of the transformative governance framework could be labelled as transformative, and whether a partnership that only aligns with some of the principles could be able to contribute to transformative change. For example, can a national park that works in an integrated manner, but is not inclusive, have transformative potential?

As I have not found a landscape-oriented partnership that aligned with all the approaches and principles, the question emerges whether landscape-oriented partnerships are able to and should be able to bring all the different principles into practice. Instead, partnerships may take some principles into account when developing their strategies. This leads to another question, namely, whether a partnership can thus contribute to transformative change by taking up a specific role in the process of change, if, for example, other organizations align with the transformative governance approaches that the partnership lacks? And also, are there ‘must-have’ and ‘nice-to-have’ governance approaches for transformative change?

Based on my empirical work, I have created a new framework specifically for landscape-oriented partnerships, in which I incorporated the questions raised above (see Table 10 and Figure 22). First, I propose to distinguish between what a partnership should think about, what a partnership must do, and how a partnership should be embedded in a broader governance mix to be transformative. Some of the original transformative governance principles are about considering, recognizing, and taking certain things into account when deciding on the role and actions taken by the partnership. For example, possible impacts of partnership activities on other sectors or other landscapes must be taken into account to avoid transferring sustainability issues to other places. However, others clearly indicate what a partnership should do, such as addressing power asymmetries. While thinking and doing are really about the partnership itself, to be transformative, the partnership should also be embedded in a transformative governance mix.

Based on the empirical observations on partnerships in this thesis and the literature on transformative change (Westerink et al., 2023; Termeer, Dewulf and Biesbroek, 2024), I assume that it is difficult for one landscape-oriented partnership to address all relevant indirect drivers, to be collaborative, challenging, and disruptive at the same time, and to reflect all existing values, perspectives, and knowledge systems. For example, in a study that aimed to assess the transformative potential of climate change adaptation initiatives, the authors also found no cases that adhered to all of the principles, highlighting certain trade-offs, such as between depth, speed, and scale of the initiative, and the focus on social or ecological aspects of climate adaptation (Engbersen, Biesbroek and Termeer, 2024). Therefore, the partnership preferably is or becomes embedded in a governance mix that also entails initiatives or organizations that align with the approaches and principles the partnership itself is not aligned with. Though this distinction between the partnerships and their networks can, in principle, be made

with the current framework, this difference is not made explicit yet. By making this distinction, we can evaluate the transformative potential of partnership not only by looking at its own, direct contribution, but also by looking at how its dominant transformative governance approach or approaches align with and complement the network in which the partnership operates.

Second, I propose to rearrange the existing five transformative governance approaches into three transformative governance approaches that align better with the division in focus of landscape-oriented partnerships as found in this research. In both **chapter 2** and **chapter 3**, I saw that most partnerships could be divided into partnerships that focus on integrative governance, partnerships that focus on inclusive governance, and partnerships that focus on adaptive, transdisciplinary, and anticipatory governance. Therefore, I developed three new categories based on the existing five: holistic, emancipatory, and reflective governance. Holistic governance thinks across sectors, issues, places, and levels of governance, influences biodiversity-relevant governance, and is embedded in a governance mix that addresses ecological and social issues, which collaborates, challenges, and disrupts, and which coordinates, integrates and combines strategies across sectors, issues, levels of governance and places. Emancipatory governance recognizes new and innovative rights, addresses power asymmetries by emancipating underrepresented stakeholders supporting intrinsic and/or relational values of nature, and is embedded in a governance mix that builds capacity for transformative landscape governance. Reflective governance takes future human and non-human generations into account, utilizes the precautionary principle, monitors and adapts approaches according to circumstances, and is embedded in a governance mix that stimulates dialogue, learning, reflection, and imagination and reflects diverse values, perspectives, and knowledge systems.

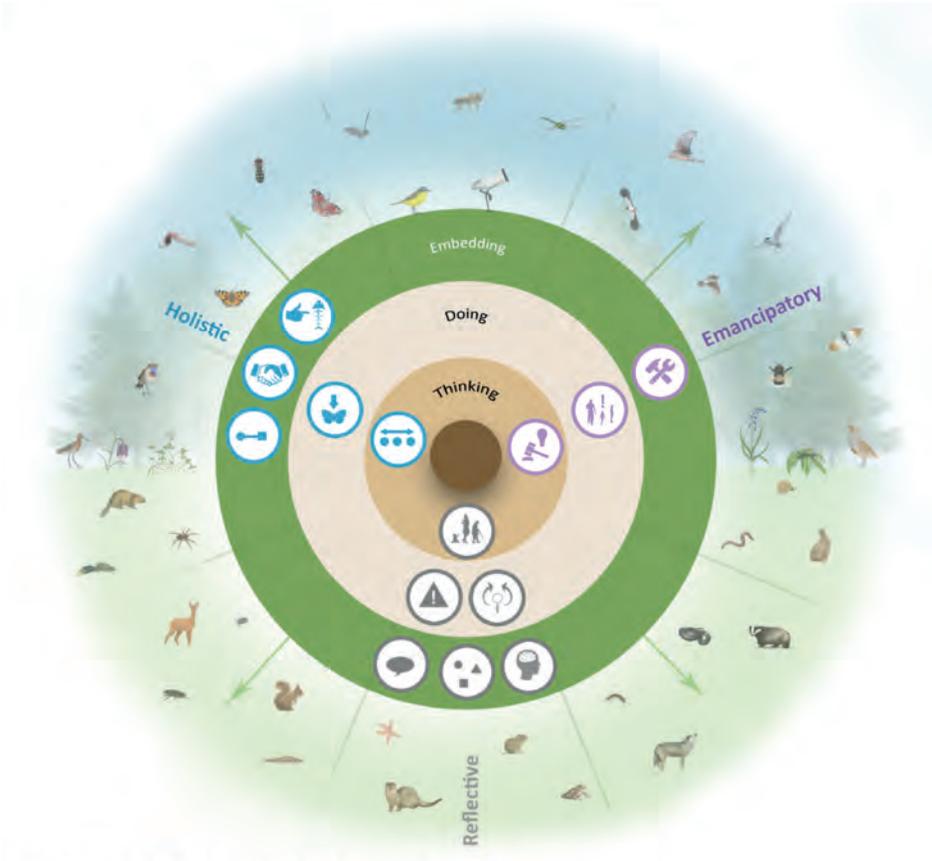
From the original five approaches, I selected and combined the relevant principles for landscape-oriented partnerships that work on sustainability issues in landscapes. Therefore, I coin this framework the ‘transformative landscape governance framework’. The principles I developed and selected are thus based on the original work of Visseren-Hamakers *et al.* (2021) and the work in this thesis. The framework should not be used as a ticking the box exercise, but as a tool for researchers and partnerships themselves to explore their transformative potential and how they might enhance this. Therefore, I want to stress that transformative potential is a gradient, from being not transformative at all to being fully transformative.

In the framework, I have also made a distinction between what I, based on my research on landscape-oriented partnerships and the literature on transformative change, see as must-haves and nice-to-haves. The must-haves are in bold and should be strived for to be able to be transformative, while the nice-to-haves may help partnerships to further elevate their transformative potential. Something which is not a nice-to-have, but a prerequisite for a partnership to be transformative, is a focus on addressing indirect drivers and supporting intrinsic and/or relational values of nature. As instrumental values are generally already acknowledged and represented by (economic) actors, partnerships should actively aim to include the other values of nature in their work (Gavin *et al.*, 2018; IPBES, 2022; Pascual, Balvanera and Christie, 2023). Thus, supporting intrinsic and/or relational values of nature should, next to addressing indirect drivers, be the core transformative landscape governance (see Figure 22).

As I have not studied cases that applied all the above principles *and* were able to contribute to transformative change, I cannot draw a conclusion on how likely it is that a partnership and governance mix that implements all these principles will actually bring about transformative change. More empirical studies on cases in which transformative governance approaches have been implemented and were successful or unsuccessful are therefore needed to better understand how transformative governance works in practice and to further improve the framework based on more empirical studies.

Table 10 : *The transformative landscape governance framework. A framework based on the original transformative governance framework by Visseren-Hamakers et al. (2021) and Visseren-Hamakers and Kok (2022), which was further refined through the empirical studies in this dissertation and additional literature and which is tailored to the work of landscape-oriented partnerships. Must-haves are in bold; nice-to-haves in regular font. Thinking means take into account, doing means implementation.*

	Governance approaches	Principles for the landscape-oriented partnership		Principles for the governance mix
		<u>Thinking</u>	<u>Doing</u>	<u>Embedding</u>
		<i>In choosing its strategic role, the partnership</i>	<i>In choosing its strategic role, the partnership</i>	<i>The partnership is embedded in a governance mix that</i>
<i>In all approaches, partnerships must address indirect drivers of biodiversity loss and support intrinsic and relational values of nature to be transformative</i>	<u>Holistic</u>	Thinks across sectors, issues, levels of governance, and places	Influences biodiversity-relevant governance	Addresses ecological and social issues Collaborates, challenges, and disrupts Coordinates, integrates, and combines strategies across sectors, issues, levels of governance, and places
	<u>Emancipatory</u>	Recognizes new and innovative rights	Addresses power asymmetries by emancipating underrepresented stakeholders supporting intrinsic and/or relational values of nature	Builds capacity for transformative landscape governance
	<u>Reflective</u>	Takes future human and non-human generations into account	Utilizes the precautionary principle Monitors and adapts approaches according to circumstances	Stimulates dialogue, learning, reflection, and imagination Reflects diverse values, perspectives, and knowledge systems Supports collaborative knowledge production systems



Transformative Landscape Governance



In all approaches, partnerships must address indirect drivers of biodiversity loss and support intrinsic and relational values of nature to be transformative

- Thinking** Things the partnerships should consider
- Doing** Things the partnership should do
- Embedding** Characteristics of the governance mix

Governance approaches

Bold font = must-have
Regular font = nice-to-have

Holistic

- Thinks across sectors, issues, levels of governance, and places**
- Influences biodiversity-relevant governance**
- Addresses ecological and social issues**
- Collaborates, challenges and disrupts**
- Coordinates, integrates, and combines strategies across sectors, issues, levels of governance, and places**

Emancipatory

- Recognizes new and innovative rights**
- Addresses power asymmetries by emancipating underrepresented stakeholders supporting intrinsic and/or relational values of nature**
- Builds capacity for transformative landscape governance**

Reflective

- Takes future human and non-human generations into account**
- Utilizes the precautionary principle**
- Monitors and adapts approaches according to circumstances**
- Stimulates dialogue, learning, reflection, and imagination**
- Reflects diverse values, perspectives, and knowledge systems**
- Supports collaborative knowledge production systems**

Figure 22: A visual representation of the transformative landscape governance framework designed by RO Visuals (Creative Commons BY-NC-ND 4.0).

5. Further research on the relationship between discursive institutionalism, transformative change, and governance is needed

The findings from insight 2 were found using a discursive institutionalist approach. While I highlight the important role of landscape discourses in transformative change, they become more influential in constraining or enabling transformative change once they are institutionalized. For further research, it would therefore be interesting to explore how principles of transformative landscape governance can aid partnerships and other actors to contribute to the structuration and institutionalization of transformative (landscape) discourses.

In this study, I applied the transformative governance framework (Visseren-Hamakers and Kok, 2022) in **chapter 2** and **3**. However, after **chapter 2**, I added a discursive institutionalist perspective to the other chapters (Schmidt, 2008a, 2008b), by studying the perspectives on transformative change and governance in the National Park through the study of park discourses (**chapter 3**), by looking at landscape discourses and processes of institutionalization (**chapter 4**), and by studying frame amplification and institutionalization alongside other amplification processes (**chapter 5**).

To address the indirect drivers of biodiversity loss, the latest IPBES assessment urges us to change our views (ways of thinking, knowing, and seeing), structures (ways of organizing, regulating, and governing), and practices (ways of doing, behaving, and relating) (IPBES, 2024). From a discursive institutional perspective, the views are conceived as (new) articulated discourses that have to be translated into new or changed practices and structures. Thus, this perspective aids in bridging between these different elements of transformative change, as well as putting the focus on the durability of change. In other words, is the change long-lasting instead of short-lived, and have there really been some fundamental changes?

Another added value of a discursive institutional perspective is that it helps move away from understanding the transformative potential of a partnership purely from the partnership's characteristics themselves, but also looks at the discursive institutional context in which this transformative potential takes shape (Tuckey *et al.*, 2023). In **chapter 4**, I show how landscape discourses can play a profound role in inhibiting transformative change, for example by excluding the possibility of questioning current land use practices, especially when these have been thoroughly institutionalized. Though many theories on transitions and transformations acknowledge the importance of context and path dependency (Geels, 2002; Gelcich *et al.*, 2010; Appel, 2018), discursive institutionalism can be a

suitable analytical lens to study this in practice. This theory can also be used to modify or expand existing frameworks for analyzing a partnership's transformative potential, like I did in **chapter 5** with the addition of frame amplification as an amplification process. In this chapter, this discursive addition to the amplification literature helped analyze how discourses outside of the landscape, such as those articulated in national policies or partnerships operating at the national level, can both inhibit and enable the work of landscape-oriented partnerships, thereby having a strong influence on their transformative potential.

Though I have used a discursive perspective in the study of transformative governance in the National Park (**chapter 3**), this dissertation has not yet explicitly explored the question of how transformative governance could contribute to the institutionalization of transformative discourses. In other words, how could the principles of transformative landscape governance contribute to this process? Here, I therefore would like to reflect on the potential relationship between the two theoretical building blocks of this thesis (transformative governance and discursive institutionalism) based on **chapter 4** and **5** and the transformative landscape governance framework.

The partnerships in the Bulb Region that I have studied did not think across sectors, issues, levels of governance, and places (holistic governance). They are explicitly sectoral and place-based, which hinders them from thinking in a transformative manner, and thus in developing a transformative discourse. Moreover, they are built on existing networks of conventional bulb farmers and do not engage stakeholders that represent different values, such as the intrinsic value of nature (emancipatory governance). As they only engage with stakeholders that are part of the status quo and mostly support the current, institutionalized landscape discourse, this prevents the structuration of a new discourse. In contrast to the lack of holistic and emancipatory governance, the bulb farming partnerships did align with some of the principles of reflective governance. They aligned with the principle of (1) monitoring and adapting and (2) being embedded in a mix of initiatives in which there is collaborative knowledge production, namely the collaboration with the living lab and the meetings of the certification scheme in which farmers discuss their farming practices amongst each other.

As discussed in **chapter 4** and **5**, these partnerships may have contributed to the institutionalization of a more sustainable discourse, the 'economically vital and sustainable' landscape discourse (see section 4.4.1). However, thereby, these partnerships may have hindered the structuration and institutionalization of a more transformative discourse. This exemplifies the need for combining the three approaches to bring about transformative change. By only being reflective but not

holistic and emancipatory, this ‘economically vital and sustainable’ landscape discourse, which is supported by the partnerships and guides the work of the partnerships, steers the partnerships in a direction that is only focused on maintaining bulb farming, protecting the interests of the most prominent stakeholders, and fails to acknowledge and address any of the indirect drivers that hinder bulb farmers from becoming more sustainable.

The reflection above is based on a case study in which I did not see transformative governance. To really understand how transformative governance principles can aid in the structuration and institutionalization of transformative discourses, there is a need for further research on cases in which transformative governance principles are put in practice. In other words, through such case studies, we could further our understanding of how a *transformation of governance* can contribute to *governance for transformations* (Patterson et al., 2017) and further integrate the two literatures (transformative governance and discursive institutionalism) used in this dissertation. This lack of a case in which transformative governance was put into practice is a study limitation which I further discuss in section 6.2.1.

6. Further research on the role of (deliberate) value change in transformative change is needed

This thesis has found that there is still a knowledge gap in the transformative change literature with regard to the role of (deliberate) value change in transformative change. Questions remain as to what extent and how values can be changed, for example, by participation in partnerships, which values should be changed, and to what extent value change can follow changes in practices.

An important knowledge gap that I encountered throughout this thesis is the role of value change. Value change is seen as one of the biggest leverage points for transformative change (Meadows, 2008; Arias-Arévalo *et al.*, 2023; Pascual, Balvanera and Christie, 2023), but we still do not understand in what way we can bring this about. Other research on the transformative potential of conservation partnerships, focused on cases in the Global South, indicates that through collaboration, value change, and so-called ‘personal transformations’ can take place (White *et al.*, 2023). However, in that study, this was measured among the scientists themselves, not among other types of partners.

Some partners of the National Park assume that engaging actors who do not yet value the intrinsic and/or relational value of nature in nature conservation will contribute to a value change among such actors. All four discourses on the park already included positively scored statements that reflected intrinsic and/or

relational values. However, based on my data, I cannot be certain that these values were present from the start, or that these were changed when organizations became a partner of the park (**chapter 3**). In the Bulb Region, conservationists experience that a lack of appreciation of the intrinsic value of nature among farmers is inhibiting conservation efforts (**chapter 5**). We must better understand what collaboration can do to change values, but also explore other ways in which value change can be brought about.

Thereby, it is not only about changing how we value nature (e.g., instrumental, relational, or intrinsic (Buijs, 2009; Chan, Gould and Pascual, 2018)), but also about what type of landscape we value. More biodiverse landscapes can provoke resistance, such as local resistance against biodiverse verges. Especially in the Dutch context, in which a neat, well-organized, and open landscape is preferred by many. Aldermen in the Bulb Region are, for example, regularly called by citizens who complain about ‘messy’ verges. This problem is similar to that of the still dominant conceptualization of the ‘good farmer’ that has neat, weedless fields, and is therefore incompatible with alternative agricultural practices such as organic or regenerative farming (Burton *et al.*, 2020; Westerink *et al.*, 2021). Just as we need to change the image of a ‘good farmer’ to let biodiversity thrive, we might also need to change the image of a ‘good landscape’.

Research into value change shows that it is very difficult to change values, as they are embedded in multiple levels of social organization in our society and are very resistant to change (Heberlein, 2012; Manfredo *et al.*, 2017). Research into value change among farmers shows that changing farming practices, or adopting new practices such as taking agri-environmental measures on their farms, can contribute to value shifts (Sutherland and Darnhofer, 2012; Sutherland, 2013; Lavoie and Wardropper, 2021). Landscape-oriented organizations, such as agri-environmental collectives, can play an important role in this (McGuire, Morton and Cast, 2013; Riley, 2016; Cusworth, 2020; Westerink *et al.*, 2021). However, **chapter 5** also shows that an existing lack of intrinsic motivation among farmers can hinder participation, therefore inhibiting the power of such collectives and landscape-oriented partnerships to contribute to value change.

A good development in that sense is that farmers are no longer restricted to their local farming communities. Farmers become more and more embedded in multiple farming subcultures, due to national associations and farmer networks, but also through social media (Runhaar and Polman, 2018; Westerink *et al.*, 2021). This can help farmers who farm in regions in which only a minority is engaged in more sustainable farming and biodiversity, such as in the Bulb Region, to learn from others, showcase their work, and thereby also adopt a new or adapted farmer

identity. Thus, further research could dive into how not only landscape-oriented partnerships but also other initiatives that might collaborate on a national level can aid in changing practices and thereby slowly but surely work towards a new vision of good farmers and landscapes with more room for biodiversity.

6.2. Methodological reflections

6.2.1. Study limitations

In this thesis, I used different methodologies to unravel the transformative potential of partnerships, including a scoping review (Colquhoun *et al.*, 2014), q-methodology (Cross, 2005) and discourse analysis (Hajer, 2006). These methodologies required the gathering of large amounts of qualitative and mixed data, which I gathered via interviews, document analysis, participant observation, and workshops. Through the use of a wide variety of methodologies, methods, theories, and cases, I hoped to shed a new and different light on the phenomenon of landscape-oriented partnerships by looking at strategies of partnerships (**chapter 2**), discourses on the governance of partnerships (**chapter 3**), landscape discourses (**chapter 4**) and the interaction between partnership strategies and discursive institutional conditions (**chapter 5**).

The first research question focused on the agency of partnerships and their contribution to transformative governance. Therefore, it was useful to combine two different studies. In the first (**chapter 2**) I used a large sample of cases to draw conclusions on the extent to which landscape-oriented partnerships worldwide address indirect drivers and align with transformative governance principles. In the second (**chapter 3**), I did an in-depth case study of a partnership in the Netherlands (National Park Hollandse Duinen) to dive deeper into why partners support, or do not support, certain transformative governance principles. For the second and third research question, the variety of methods (interviews, observations and document analysis) helped to combine insights on discursive institutional developments (such as landscape discourses and policy changes) (**chapter 4** and **5**) with the actions and perspectives of individual actors and partnerships (**chapter 4** and **5**).

While this study has developed different insights on the role of landscape-oriented partnerships in transformative change for biodiversity, it also has its limitations. One limitation of this study, which I already briefly discussed in insight 4, is the lack of cases that followed the principles of transformative governance. The partnerships selected for this study were based on the landscape under study. In this landscape, I did not find partnerships that: 1) were explicitly aiming for

transformative change, 2) applied transformative governance approaches, and 3) had a clear contribution to transformative change. Hence, my cases provide a limited understanding of how the transformative governance approaches discussed in **chapter 2** and **3** could in practice help landscape-oriented partnerships to contribute to transformative change. To enhance our understanding of transformative change and governance, we need to look both into cases in which transformative change does not occur (as studied in **chapter 4** and **5**), but also learn from real-life transformative examples. Methods such as Qualitative Comparative Analysis, or other forms of mixed methods, could be useful to compare more and less transformative partnerships.

The limited timespan in which developments in the embedded case could be followed is a limitation of this study. While the developments within the Bulb Region have been studied over a longer period of time in **chapter 4**, the partnerships studied in **chapter 3** and **5** do not exist long enough to draw final conclusions on their contributions to transformative change. Therefore, longer-lasting research projects, as well as historical analyses of transformative partnerships, are needed to further enhance our understanding of the transformative potential of landscape-oriented partnerships for biodiversity. These could also include partnerships that seem to have a high transformative potential according to the criteria brought forward by literature, but still do not bring about transformative change. This can enable the refinement of what we perceive as being potentially transformative or not, and learning even more about the conditions that influence the transformative potential of partnerships, apart from the conditions discussed in this dissertation.

Then there is also the question of generalizability. A part of the insights in this dissertation are based on the Dutch context. However, by including case studies from all over the world in **chapter 2**, and comparing the findings with the literature, most insights are applicable outside of the Dutch context, apart from findings that are specific to the context of the case study, such as the content of the park and landscape discourses studied in **chapter 3** and **chapter 4**. Some recommendations, such as the important role of governments, might not apply to all countries and regions, as some countries have different institutional conditions. For example, in areas where corruption plays a significant role, or where governments are not supporting conservation (anymore), we cannot expect them to enhance the transformative potential of landscape-oriented partnerships. At the same time, in these contexts, landscape-oriented partnerships might also be less inclined to align their goals and activities with the governmental policies as we have seen in **chapter 5**. Thus, though the specific policy recommendations may not

apply to all countries, the more general insights on the role of landscape-oriented partnerships in transformative change and governance can be applied to other contexts, just as the insights on the transformative governance framework and the theoretical reflections on the use of a discursive institutional perspective in studying transformative change.

6.2.2. An embedded case study

The choice for an embedded case study was made at the onset of this research, based on the idea that the National Park deliberately included agricultural landscapes within their park borders, with the aim to influence these areas to the benefit of biodiversity. Therefore, it was interesting to look at the National Park as a partnership that might influence an agricultural landscape (the Bulb Region) and the partnerships working on biodiversity in that landscape. However, during the research, I found that the relationship between the National Park and the Bulb Region appeared to be very weak. In the work of the National Park, there are no concrete projects aimed at bulb farming, and the organizations that are partners of the park and active in the Bulb Region, such as the Stichting Greenport and some municipalities, are not implementing new or extra plans or projects because of their role as partners of the park. In the discourses on the National Park (**chapter 3**), it seemed that though agriculture was seen as an important driver of biodiversity loss by some of the discourses, partners did not see a clear role for the park in addressing this driver. In the landscape discourses on the Bulb Region, the park was never mentioned or discussed (**chapter 4**). Thus, the respondents did not experience a clear relationship between the landscape as defined by National Park Hollandse Duinen and the landscape of the Bulb Region as they perceive it. This lack of relations between the park and the Bulb Region hindered an analysis between the different sub-cases of the embedded case study, an element which is seen as an important added value of choosing an embedded case study over other case study designs (Yin, 2009). It would be interesting to compare this case with other national parks that aim to include other types of landscapes, such as urban and agricultural landscapes, within their park borders. National Park Van Gogh, another newly developed national park in the Netherlands that shares this approach of including other types of landscapes in the park (see Figure 14 in section 3.1), could be an interesting park to compare the Hollandse Duinen with, as this park seems to engage more with farmers in practice (Janssen, 2024, Van Gogh Nationaal Park, 2025).

6.2.3. Transdisciplinary research

While scientific inquiry can be done in solitude, the work in this thesis has not been an individual endeavor. The research took place within the context of a living lab (see section 1.3.2. for more information) that aimed to not only do research but also have a societal impact, with researchers and students from various disciplines working on biodiversity and sustainable bulb farming. Within the project, we worked together with stakeholders at different governance levels and from different backgrounds within the Dutch Dune and Bulb Region. We collaborated in several partnerships, including the regional certification scheme and the demonstration field, which are studied in **chapter 5**. We performed ecological research on bulb fields, organized information events on the potential for nature-inclusive bulb farming and biodiversity conservation in the landscape, and thought along with many policy processes and activities that are currently happening in the landscape, including a new spatial planning policy. One of the more applied outputs that was created by the living lab is a poster that shows bulb farmers how they can create more space for biodiversity on their farms (see Figure 23). This poster was based on research by our ecological researchers, research by students, and the workshop that I organized as part of the data collection for **chapter 4** and **5**.

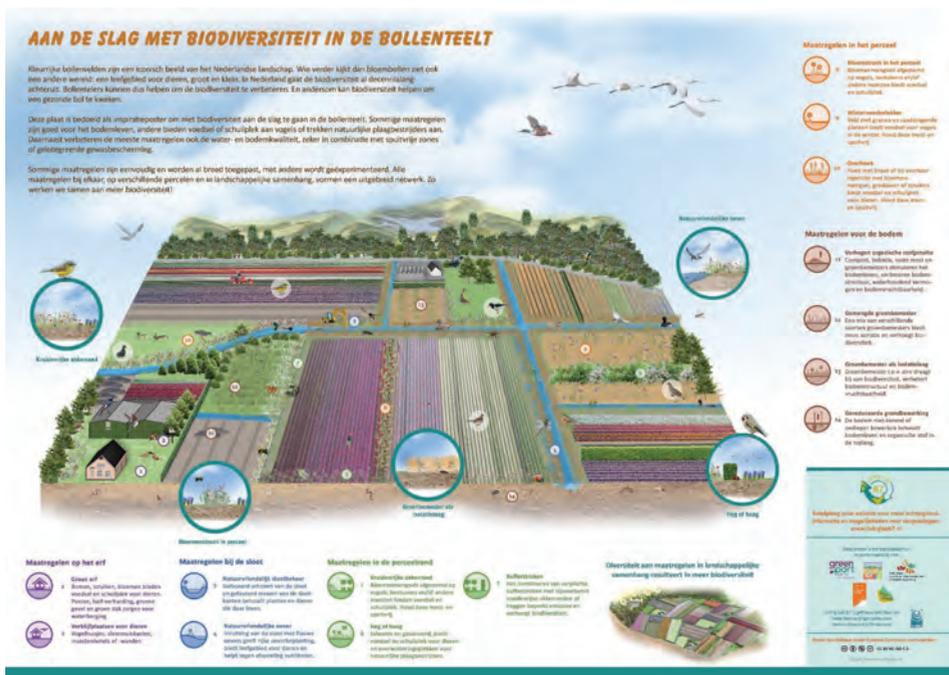


Figure 23: Poster with biodiversity measures that can be taken by bulb farmers. The poster was designed by RO Visuals (Creative Commons BY-NC-ND 4.0).

Combining doctoral research with transdisciplinary research is valuable, but it demands the balancing of scientific and societal interests, both in terms of time investment as well as scope. Here, I want to reflect on some benefits and challenges when using transdisciplinary research in the study of transformative change.

In transdisciplinary research focused on a specific landscape, as in our case, there is the danger of being too focused on the people that are directly involved in the landscape, like farmers or local communities, rather than people working in the institutions that can enable or hinder the people within landscapes to change. Another type of actor that is often less involved in work on biodiversity in agricultural landscapes is the citizen. By not including them, we might have overlooked concerns that are not acknowledged by more powerful actors in the landscape, such as concerns around biodiversity and health, which were found to be part of an unstructured discourse in **chapter 4**. We tend to focus on economic actors, or actors that we perceive as powerful, such as farmers and other types of land owners, but thereby miss the perspective of less powerful actors. This seriously harms the potential to be transformative, since emancipation is, in essence, part of transformative governance.

In principle, transdisciplinary research seems especially suitable for being collaborative. However, by focusing more on actors who are willing to change or even disrupt, the transformative potential of transdisciplinary research projects can be further enhanced. At the same time, transdisciplinary research can be a good way to engage the conventional farmer or average citizen in sustainability challenges. Therefore, we should reflect on the different roles transdisciplinary research can have, and how this influences a researcher's integrity and positionality (Kruijf *et al.*, 2022). As discussed in the Nijmegen Agenda on Transformative Interdisciplinarity and Transdisciplinarity, transdisciplinary research is not by definition transformative (Earth System Governance Project, 2024). The principles transdisciplinary research should adhere to according to this agenda, have a strong overlap with the original transformative governance framework, as well as with my newly proposed transformative landscape governance framework: focusing on sustainability transformations, recognizing positionality, acknowledging and fostering pluralism and a multiplicity of knowledge systems, embedding inclusiveness in research, education and action and addressing structural inequalities.

Based on my experience of doing scientific research in the Living Lab in the Bulb Region, the strength of a living lab lies in its focus on social learning instead of only on producing scientific output. Though the specific details of the scientific work

may be of less interest to the stakeholders, the fact that science is part of the process can provide insights, legitimacy, and encouragement for the work done by and with stakeholders. Thereby, science can play a role in initiating and supporting change in a specific landscape. The role of science then also depends on the phase in which the specific sector or landscape is in. In our case, biodiversity was not yet high on the local agenda, so we mainly contributed by putting this on the agenda and initiating evenings, supporting new initiatives (such as the regional certification scheme), and doing experiments (for example, on the demonstration field). This process of social learning can also have an added value for the scientific research that is done. For example, by being part of the process of establishing and developing new partnerships in the Bulb Region, I was able to follow the partnerships and stakeholders throughout the process, which helped me understand how the partnerships were influenced by changing policies and politics (**chapter 5**).

The main challenge in studying transformative change for biodiversity is to overcome and bring together the different knowledges within one living lab or transdisciplinary research project and to find a way in which to measure the impact of the wide diversity of both ‘social’ and ‘ecological’ measures taken in the area. The different ontologies and epistemologies of natural and social sciences (Moon and Blackman, 2014) are an important hindrance in bringing different types of knowledge together, and collaboration between the different sciences thus needs a lot of mutual learning and translation. For example, qualitative research based on a theoretical framework such as transformative change can be difficult to understand for researchers who have a strong positivist background, such as ecologists. This can lead to social science being regarded as mere ‘opinion’, or as ‘too abstract’, due to a lack of understanding of both its philosophy of science and its methodology. Another issue is that the type of data and scale of data that is generated makes it complicated to bring the different studies together. For example, while my research included the National Park and the Bulb Region, the ecological research was limited to the Bulb Region only, and did not focus on the effects of landscape-oriented partnerships, but was focused on understanding the ecology of the landscape, and more specifically, on the bulb fields.

6.3. Recommendations for practice

6.3.1. Landscape planning for biodiversity

While ecologically it makes sense to think on a landscape scale, the work in this thesis showed that working on a landscape level in biodiversity governance comes

with its challenges. The tendency to cling to historic or known landscapes might hinder the potential for transformative landscape governance for biodiversity.

As **chapter 4** has shown, landscape discourses can create resistance to change. In general, the concept of 'landscape' is often related to a history of human-environment interactions. When talking about landscapes, people often tend to want to maintain the landscape as they have known it. In biodiversity conservation, we lean on knowledge of the past, of the landscapes before us, influenced by the people before us. For example, an elaborate 'landscape biography' formed the basis for the development of National Park Hollandse Duinen (Neeffjes, 2018). From a conservation perspective, it is important to restore biodiversity and avoid the shifting baseline syndrome (Pauly, 1995; Stelten *et al.*, 2020), in which the current, less biodiverse situation is regarded as 'normal'.

However, the question is whether, with climate change and the need to change land use accordingly (Opdam, Luque and Jones, 2009), these images of the past are still useful to guide us, as land use change will also involve different types of plant and animal species. One example is the Bulb Region studied in this dissertation, in which some scenarios predict that, due to increasing droughts and salinization, the future of bulb farming in this region is uncertain (Wijnakker, and Plambeek, 2021). Species like the yellow wagtail seem to thrive in the bulb farming landscape, but might become more vulnerable if the area is used for other types of agriculture, with more disturbance throughout the year, or when the landscape loses its openness due to agricultural uses such as agroforestry or urbanization.

Careful thinking and planning for the conservation of current, new, or different biodiversity is thus necessary. Instead of looking towards the past and holding onto these landscapes, we could also look forward. Developing desirable visions based on future projections and scenarios can help with this if they have a clear focus and scope, are flexible, include people with a shared goal but diverse perspectives and dare to think beyond the current system (IPBES, 2024). One of the boldest scenarios for the Bulb Region is developed by students, who dared to question the feasibility of maintaining all bulb farming areas, and propose converting part of those to dune areas and paludiculture (Jurrius *et al.*, 2023). The downsides of these scenarios are that they often take current stakes as a starting point and rarely include concrete ideas for biodiversity conservation and restoration, thus, limiting their potential to contribute to transformative change.

An alternative to careful planning might be to create more space for autonomous nature development via processes of wilding. Developed by Isabella Tree (Tree,

2018), this concept is derived from the more famous rewilding, which is generally about bringing back wildernesses, and is criticized for stressing the divide between humans and nature (Jørgensen, 2015; Perino *et al.*, 2019). Within the concept of wilding, or restoring wildness, there is no focus on a previous state which needs to be returned; rather, the focus is on creating space for autonomous ecological processes (Massenberg, Schiller and Schröter-Schlaack, 2023). As work on urban wilding shows, this can involve all types of nature in any place (Bonthoux and Chollet, 2024). This approach can thus aid in thinking about and planning for future landscapes in which, though the conditions have changed, there is even more space for biodiversity.

6.3.2. Towards more transformative policymaking

From the perspective of politicians and policymakers, the most important question discussed in this thesis is whether landscape-oriented partnerships are a useful policy instrument for transformative change. What this thesis shows is that landscape-oriented partnerships can have transformative potential, but that governments themselves play an important role in enabling the potential of landscape-oriented partnerships to contribute to transformative change.

In this thesis, I found two important roles that governments can play in influencing the transformative potential of landscape-oriented partnerships. First, by defining and setting sustainability goals that challenge the current practices within a landscape, governments can stimulate the development of landscape-oriented partnerships to deal with these challenges. In the Bulb Region, I saw that most change at the landscape level was induced by top-down rules, regulations, and policy, based on European legislation (**chapter 4** and **5**). Second, governments can contribute to the amplification of existing ones. For amplification, support from governments is sought through partnerships. However, this can go hand in hand with becoming less transformative if the goals set by governmental policies do not steer towards transformative change (**chapter 5**).

Thus, the most important role that policymakers play is in the development of the framework in which landscape-oriented partnerships operate. Policymakers, as well as politicians, should not underestimate the power of clear goals (like those within the European pesticide regulation or the Water Framework Directive). At the same time, policies need to stimulate systemic changes, while it is known that specific indicators often become a goal in themselves. Therefore, governments need to aim for policies that put system change at the forefront, and thoroughly analyze what is necessary for that. In the case of biodiversity in the Bulb Region, phytosanitary

requirements, a lack of fit with agri-environmental schemes, and high land prices are examples of systemic problems that farmers cannot address, but different levels of governments could.

In the Netherlands, there is currently a lack of a clear vision on agriculture and the development of rural areas (Aarts and Leeuwis, 2024). After the Vision of Circular Agriculture (Ministerie van LNV, 2018), there has not been one clear governmental vision on what the future of agriculture in the Netherlands should look like, though many different visions have been put forward by other parties (e.g., Vink and Boezeman, 2018; de Boer et al., 2020; Ploegmakers et al., 2020; Bos et al., 2023). Transitions, or change in general, are approached in an apolitical manner, where explicitly questioning the current system is unthinkable. At the same time, farmers experience a lot of criticism from environmentalists and progressive, left-winged opposition parties. If there is no clear future scenario, it is logical that any instruments, be it national legislation or landscape-oriented partnerships, remain focused on adapting the current system, as there is no shared understanding of which or what kind of system we are aiming for.

Imagination, as well as recognizing the political nature of transformative change, is essential to bring about transformative change (Blythe *et al.*, 2018b; Pereira *et al.*, 2019). According to Bendor (2018) we are facing a crisis of the imagination, as “*the path to sustainability is obstructed by our own inability as individuals and as a collective to imagine what a sustainable future may look like*” (p. 132). Landscape-oriented partnerships could be useful venues to develop such imaginaries, however, they can be bound by both discursive and non-discursive conditions (**chapter 4**) and existing interests (Sundqvist and Åkerman, 2024) and often do not focus on anticipatory governance (**chapter 2** and **3**). Even when they start with new (transformative) imaginaries of the landscape, less transformative, existing policy discourses and/or legal requirements can steer them away from more transformative ambitions (**chapter 5**). In general, a landscape focus, as in promoting landscape-oriented partnerships as instruments for transformative change, may lead to a focus on ‘the concrete’ and ‘the present’. Therefore, landscape-oriented partnerships are not a silver bullet that can address all drivers of biodiversity loss.

Instead, policymakers should regard landscape-oriented partnerships as part of a bigger set of policy instruments that can drive transformative change, in which landscape-oriented partnerships can aid in implementing transformative goals in a way that suits the local circumstances. Generally, partnerships lack the financial and human capital to reach their goals and are dependent on ever-changing

political situations. Creating long-lasting support mechanisms for landscape-oriented partnerships is the most straightforward way in which the potential of these partnerships can be enhanced by governments. Thereby, we must avoid partnerships to completely gear towards the current policy hype (**chapter 5**) and provide a clear long-term perspective on what is expected from them.

6.3.3. Transformative collaboration for nature organizations

For nature conservationists, connecting to other actors and sectors is seen to be vital (Clement, Guerrero Gonzalez and Wyborn, 2020; Hauptfeld, Jones and Skyelander, 2022; Arponen and Salomaa, 2023). Working together with other actors in landscape-oriented partnerships seems, therefore, to be a logical strategy for conservationists to contribute to biodiversity conservation. However, sometimes it might be better to choose a different strategy, or adapt the way in which nature organizations collaborate with other stakeholders to be more geared towards transformative change.

One way in which nature organizations can have a more transformative impact is via different discursive strategies. **Chapter 4** shows that other narratives, such as human health, can motivate people to take actions that benefit biodiversity in the long term. The development of resistance to the farming of lilies in many places in the Netherlands is a good example of this. Another discursive strategy could be the use of boundary concepts such as a healthy soil (**chapter 4**), to bridge between farmers' and conservationists' discourses.

Reaching out to conservationists and other relevant actors in other landscapes that are dealing with the same drivers of biodiversity loss could be another suitable strategy. Generally, most issues are not specific to the landscape but are general issues. Their impact is only different based on the specific, local circumstances, and by connecting with others that share the same goals, collaborative strategies targeting the same drivers can be developed. For example, in many environmental issues, EU policies have the most impact on biodiversity conservation, but are also impacting and sometimes hindering transformative change in agricultural practices. For conservation, the EU has a particularly large impact in countries such as the Netherlands, in which national nature law (currently part of the Omgevingswet) is based on the bare minimum required by the EU Bird and Habitat Directive. Lobbying for better policies for biodiversity and agriculture at the EU level should therefore be a prime focus of the European conservation community.

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List of abbreviations

AES	Agri-environmental schemes
CBD	Convention on Biological Diversity
EU	European Union
GBF	Kunming-Montreal Global Biodiversity Framework
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IPCC	Intergovernmental Panel on Climate Change
IPLCs	Indigenous People and Local Communities
ISG	Intergemeentelijke Structuurvisie
IUCN	International Union for Conservation of Nature
KPI	Key Performance Indicator
MLP	Multi-level perspective
NGO	Non-governmental organization
NP	National Park
NPHD	National Park Hollandse Duinen
NPLG	Dutch National Program for Rural Areas
NWA	Nationale Wetenschapsagenda
PCA	Principle Component Analysis
SDGs	Sustainable Development Goals
SMO	Social movement
SOGA	Seeds of Good Anthropocenes
UNCED	United Nations Conference on Environment and Development
UNESCO	United Nations Educational, Scientific and Cultural Organization
USA	United States of America
WWF	World Wild Fund for Nature

List of figures

Figure 1 Bending the curve of biodiversity loss	13
Figure 2 Population trends of farmland birds in the Netherlands	14
Figure 3 Multi-level perspective on socio-technical transitions	19
Figure 4 A map of the Netherlands, showing the location of National Park Hollandse Duinen, and how this park overlaps with the Dutch Dune and Flower Bulb Region	32
Figure 5 A map of National Park Hollandse Duinen and the Dutch Dune and Flower Bulb Region	37
Figure 6 A picture of a dune area in National Park Hollandse Duinen	40
Figure 7 Picture of a rabbit in a campaign of National Park Hollandse Duinen	41
Figure 8 A typical image of the Bulb Region	43
Figure 9 A map of the Dutch Dune and Flower Bulb Region	44
Figure 10 Poster to promote the protection of the bulb birds in the Bulb Region	46
Figure 11 Bending the curve of biodiversity loss in the Dutch Dune and Flower Bulb Region	47
Figure 12 Overview of the different chapters of this dissertation	49
Figure 14 Overview of existing national parks in the Netherlands, landscape development zones, initiatives for new parks, Natura 2000 areas and the Dutch National Nature Network	84
Figure 15 The grid used in this study	89
Figure 16 Example of a q-sort with statements from our study	93
Figure 17 An overview of which discourses have at least one positively scored (>+1) characterizing statement that is part of the ideal type transformative discourse	108
Figure 18 Map of the Dune and Flower Bulb Region	125

Figure 19 Overview of the three discourses on a continuum from structuration towards institutionalization	135
Figure 20 Map of the Dune and Flower Bulb Region	156
Figure 21 Picture of the demonstration field, showing the 'typical' landscape of the Bulb Region with tulips in the foreground and a small strip of houses in the background	158
Figure 22 A visual representation of the transformative landscape governance framework	193
Figure 23 Poster with biodiversity measures that can be taken by bulb farmers	201
Figure 24 A visual representation of the transformative landscape governance framework	312
Figure 25 Een visuele weergave van het raamwerk voor transformatieve landschapssturing	325

List of tables

Table 1 An overview of the five transformative governance approaches and their principles	25
Table 2 Operationalization of the governance approaches in transformative governance	60
Table 3 An overview of the five transformative governance approaches	86
Table 4 Overview of the three ideal-type discourses on the park and its governance	87
Table 5 Statements developed for the q-sort	90
Table 6 Overview of distinguishing statements and characteristic statements per discourse	100
Table 7 Overview of respondents	127
Table 8 Amplification types and processes	154
Table 9 Overview of the landscape-oriented partnerships included in this study	157
Table 10 The transformative landscape governance framework	192

Research data management statement

Through the interviews, personal data have been collected, though not more than necessary for the purpose of this research, following the General Data Protection Regulation. Where possible, data have been anonymized or pseudonymized. Consent for using and saving interview data was obtained via written and recorded consent. Before the start of the research, a data management plan was written and approved by the data steward of the Radboud Faculty of Management. In line with the data management policy of Radboud University, all data that was collected during this study was stored on a secure server space on the campus network, which is automatically backed up. This data will remain available upon reasonable request for ten years after this research project has finished. Non-confidential data, such as the statistical output of the Q-methodology, will become publicly available via the Radboud Data Repository.

Appendices chapter 2 to 5

Appendix chapter 2

Table A: Overview of literature search

Database	Web of Science	Greenfile	Taylor & Francis
Search query	(biodiversity OR agrobiodiversity OR "animal diversity" OR "mammal diversity" OR "plant diversity" OR "species diversity") AND (partner* OR collaborat* OR cooperat* OR co-operat* OR coordinat* OR co-ordinat* OR alliance* OR participation OR coalition*) AND (ngo* OR non-governmental* OR nonprofit OR non-profit OR nongovernmental OR "nature organization" OR "nature organisation" OR farmer* OR fisher* OR forester* OR rancher* OR peasant*) AND (case OR region* OR local* OR place-based)	(DE "BIODIVERSITY" OR DE "AGROBIODIVERSITY" OR DE "ANIMAL diversity" OR DE "AQUATIC biodiversity" OR DE "ARID regions biodiversity" OR DE "FOREST biodiversity" OR DE "FRESHWATER biodiversity" OR DE "MAMMAL diversity" OR DE "MARINE biodiversity" OR DE "PLANT diversity" OR DE "SPECIES diversity") AND (partner* OR collaborat* OR cooperat* OR co-operat* OR coordinat* OR co-ordinat* OR alliance* OR participation OR coalition OR teamwork OR working together OR joint effort) AND (ngo OR non-governmental organization* OR non-governmental organization* OR nonprofit OR non-profit OR nongovernmental organization OR non-governmental organisation OR nature organization* OR nature organisation* OR farmer* OR fisher* OR forester* OR rancher* OR peasant*)	[All: partnerships] OR [All: collab*] OR [All: coord*] OR [All: coop*] AND [in Journal: Biodiversity] AND [Publication Date: (01/01/2000 TO 12/31/2021)]
Date of search	31-8-2021	20-8-2021	31-8-2021
Filters/limiters	2000-2021, journal publications	2000-2021, English, Journal Publications	2000-2021
Results	3137	298	408

Table B: Codes that are used in the final analysis

Code	Frequency	Description
Aim_ Biodiversity Centered	32	The aim is biodiversity-centered.
Aim_ Multi-aim	55	The aim is not only biodiversity-centered, but also includes multiple aims.
Dr_add_in	79	Partnership strategies addressing indirect drivers of biodiversity loss. Examples of indirect drivers are unsustainable discourses, demographic changes, legislation, and conflicts.
CO_Af	18	Partnerships in the African continent.
CO_As	21	Partnerships in the Asian continent.
CO_Au	4	Partnerships in Australia, New Zealand, or other countries in Oceania (including the Antarctic).
CO_EU	15	Partnerships in the European continent, including non-EU countries and parts of the North Pole (e.g., Greenland).
CO_NA	15	Partnerships in North America, including Mexico and countries belonging to Central America (e.g., Costa Rica, Nicaragua).
CO_SA	19	Partnerships located in South America, including islands belonging to South American nations such as Galapagos.
Constraining_Conditions	210	Conditions that constrain partnerships, focusing on external conditions rather than internal conditions. Examples of external conditions are legislation, dominant discourses, and political will. Examples of internal conditions are the presence of leadership, trust, and reciprocal relations within partnerships.
Enabling_ Conditions	219	Conditions that enable partnerships to contribute to biodiversity conservation and restoration, focusing on external conditions rather than internal. Examples of external conditions are legislation, dominant discourses, and political will. Examples of internal conditions are the presence of leadership, trust, and reciprocal relations within partnerships
ET_Ec	69	The environmental target of the partnership is a landscape, ecosystem, or habitat. For example, the Atlantic rainforest, the Californian coast, or a mountainous area.
ET_Spe	40	The environmental target is a specific species or set of species, such as turtles, monkeys, or the snow leopard. We refer hereby to the main target of the partnership, as species conservation often results in habitat or ecosystem restoration as well.

Code	Frequency	Description
Par_bus	41	Partners in partnerships that work in for-profit organizations, such as businesses. Examples are oil companies, timber extraction companies, private land owners (e.g., wildlife lodges), and mining companies. Individual farmers, foresters, and fishers are not included in this code. Code thus refers to market actors.
Par_ci	67	This code refers to citizens and local communities, thus to partners in partnerships which are partners because they inhabit the area the partnership is targeted at. Thus, not in their role as farmers or fishers, but as citizens. Code refers to civil society actors, but excludes institutionalized organizations such as ENGOs or development organizations.
Par_far	59	This code refers to partners that are partners because they are resource users in the targeted landscape. Examples are fishers, farmers, and hunters. This is thus a segment of market actors, referring to actors that are directly economically dependent on natural resources in the landscape.
Par_gov	105	Partners that are (part of) local, regional, or national governments. This code thus refers to public partners.
Par_ngo	110	Partners that are non-governmental organizations, for instance, ENGOs such as WWF and the Nature Conservancy, or development organizations such as Oxfam Novib. This code thus refers to institutionalized civil society actor organizations.
Par_re	50	Partners that are affiliated with a university or research institute, which participate in the partnership with the goal of contributing to knowledge creation.
Activity	612	Activities are deliberate actions executed by (one of) the partners.
Total	1840	

Table C: *Overview of activities found in the different partnerships*

Activity
Improve salience and inclusiveness of conservation plans and policies by integrating local perceptions
Improving awareness and knowledge base on conservation through awareness campaigns and community education
Improving conservation by lobbying for (different) conservation policies
Building local capacity for conservation through training
Empowering local people to contribute to conservation by increasing local participation in decision making
Enabling knowledge exchange and collaboration on conservation by creating inter-institutional collaborative bodies
Enabling partners to contribute to conservation by providing financial support
Improving local livelihoods through training
Developing knowledge on conservation measures by initiating pilots
Funding and coordinating conservation and improving livelihoods through community based organizations for conservation
Improving the sustainability of commodities by developing or applying certification standards
Supporting conservation by providing equipment for conservation measures or research
Enabling knowledge exchange on conservation by creating social venues and multi-stakeholder platforms
Improve knowledge base on conservation and/or enable adaptive management through monitoring
Improve knowledge base on conservation by creating a biodiversity database
Improving awareness of and knowledge base on conservation by distributing maps and posters
Improving awareness and knowledge base on conservation by organizing seminars
Producing transdisciplinary knowledge for conservation by including partners in research and monitoring
Supporting partners in sustainable practices by providing advice and technical assistance
Supporting conservation through the development of management plans
Supporting conservation through the development of maps
Supporting conservation through the development of measures
Improve conservation supporting behavior by promoting local ownership of biodiversity resources
Improving conservation by creating or changing conservation policies and regulations
Improving conservation by developing management proposals and plans
Enabling patrolling by providing salaries for guards
Enabling restoration by developing new technologies and protocols
Financing conservation through fund raising
Financing conservation through the creation of entrance fees for protected areas
Support conservation by mobilizing and coordinating volunteers
Decreasing the chance of erosion through water management

Activity

Ecosystem restoration through deliberate land burnings

Ecosystem restoration through invasive species management

Ecosystem restoration through reforestation

Enabling alternative or sustainable livelihoods through microcredit

Financing conservation through fund raising

Formalizing local initiatives in national policies

Managing populations through angling

Mitigating bycatch by using different technologies

Mitigating human-wildlife conflicts through the creation of physical barriers

Preventing overfishing by compensating fishers to decrease fishing pressure

Raising awareness and decreasing marine litter through beach clean-ups

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Appendix chapter 3

Table A: *List of interviews used for studying the concourse*

Date	Organization type
25-3-2021	National park organization
20-7-2021	Government
27-7-2021	Nature organization
20-8-2021	Government
2-9-2021	Government
2-3-2023	Nature organization
7-3-2023	Water production company

Table B: *List of observed meetings*

Date	Location	Theme
21-6-2021	Online	Nationaal Park Hollandse Duinen for Dummies - Introducing the NP to local entrepreneurs/inhabitants
24-6-2021	Online	NPHD - A stronger area by combining and connecting, introduction to the executive agenda 2021-2025
1-10-2021	Duinrell, Wassenaar	Official status request & What has the park achieved until now
20-6-2022	Te Werve Buiten, Rijswijk	Networking among partners, recreational pressure, using different welfare indicators in the park, and sustainable agriculture
24-6-2022	Nationaal Park Weerribben Wieden, Ossenzijl	NPs in the Netherlands, collaborating with farmers
13-2-2023	Naturalis, Leiden	NP 3.0 concept
27-3-2023	Online	Sustainable golf court management in the NPHD
28-3-2023	Online	Recreational pressure and visitor management in the NP
3-4-2023	Online	NP 3.0 concept
19-6-2023	Brasserie Buitenhuis, Valkenburg	Networking, biodiversity conservation, storytelling

Table C: List of Q-interviews

Date	Respondent number	Organizational domain
11-9-2023	1	Government
14-9-2023	2	Nature management/ENGO
18-9-2023	3	Nature management/ENGO
19-9-2023	4	Nature management/ENGO
19-10-2023	5	Government
26-10-2023	6	Government
9-11-2023	7	Government
9-11-2023	8	Government
13-11-2023	9	Government
13-11-2023	10	Leisure/Culture
23-11-2023	11	Government
23-11-2023	12	Nature management/ENGO
27-11-2023	13	Government
30-11-2023	14	Science
30-11-2023	15	Nature management/ENGO
6-12-2023	16	Government
21-12-2023	17	Government
21-12-2023	18	Farming
9-1-2024	19	Government
9-1-2024	20	Leisure/Culture
11-1-2024	21	Nature management/ENGO
12-1-2024	22	Leisure/Culture
16-1-2024	23	Science
16-1-2024	24	Science
18-1-2024	25	Leisure/Culture
22-1-2024	26	Government
25-1-2024	27	Leisure/Culture
25-1-2024	28	Leisure/Culture

Table D: *Distribution of participants per partner category*

	Governance partner (Most influence)	Strategic partner	Operational partner	Miscellaneous partner (Least influence)	Total
Government	4	5	3	0	12
Nature management/ ENGO	3	1	2	0	6
Leisure/Culture	0	0	2	4	6
Science	0	3	0	0	3
Farming	0	0	0	1	1
Total	7	9	7	5	28

List A Interview guide post-q interviews

1. Where do you draw the line between neutral and agree?
2. Can you comment on your choice to put these two statements to the far right?
3. Can you comment on your choice to put these two statements to the far left?
4. Were their statements that you found difficult to give a position or which you doubted about?
5. Were their statements which sparked strong feelings?
6. Could you shortly summarize your perspective on the park?
 - a. What are the most important goals of the park?
 - b. How can these best be achieved?
 - c. Who should be involved in achieving these goals?
 - d. What are the strengths and weaknesses of the park?
5. How does your organization contribute to the goals of the park?
6. What was the most important motivation for your organization to become a partner of the park?

Table E: Q-sort data per respondent, from statement 1 to 22.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Resp1	7	5	6	5	3	2	2	5	4	6	6	5	2	8	3	6	4	4	7	7	5	9
Resp2	4	8	3	3	7	2	2	3	8	6	8	7	6	8	6	4	5	7	4	3	4	4
Resp3	7	6	8	7	7	5	6	5	6	6	2	1	5	6	8	7	7	8	4	4	4	5
Resp4	5	3	4	6	6	4	2	4	6	4	5	3	4	2	6	8	2	7	7	5	6	7
Resp5	7	7	5	2	7	4	1	5	2	4	6	3	3	3	8	9	6	6	5	4	8	5
Resp6	4	5	3	7	5	8	2	6	1	6	6	4	3	4	9	9	2	6	4	5	4	8
Resp7	8	3	4	4	3	6	2	4	2	5	7	5	4	8	9	6	6	5	5	7	6	8
Resp8	5	6	4	5	8	7	5	3	6	3	6	4	2	6	8	9	4	7	4	9	7	2
Resp9	8	7	4	3	2	4	2	1	7	6	8	7	6	9	5	6	3	4	5	6	2	5
Resp10	6	4	4	3	2	5	1	3	7	6	9	7	6	8	5	3	2	7	5	8	3	5
Resp11	6	7	6	3	4	6	1	7	3	5	6	5	2	4	7	5	4	8	4	6	4	6
Resp12	6	3	7	8	6	8	4	7	3	4	8	2	1	9	9	6	4	5	5	7	2	6
Resp13	7	6	7	4	3	6	2	4	5	7	5	4	9	4	5	7	3	8	3	6	5	5
Resp14	3	5	6	4	7	2	2	5	9	3	3	2	5	5	7	5	4	9	3	7	4	6
Resp15	8	5	2	4	6	6	3	4	6	5	5	4	2	9	7	8	5	8	3	6	6	3
Resp16	8	7	3	4	9	2	3	6	8	5	5	4	2	7	5	8	7	6	5	5	6	5
Resp17	3	3	5	6	4	4	5	2	5	6	9	6	4	7	2	7	3	5	8	4	9	8
Resp18	9	4	5	3	5	1	2	2	7	7	8	3	5	3	6	8	2	5	3	8	5	8
Resp19	7	7	4	3	7	1	5	3	8	6	9	6	6	6	8	7	6	5	3	4	2	5
Resp20	7	6	4	7	4	6	3	2	4	3	5	4	5	9	6	8	3	7	8	7	7	5
Resp21	6	3	8	6	8	1	2	3	9	5	3	7	3	2	9	6	5	7	6	7	4	4
Resp22	4	5	2	8	6	3	6	3	9	8	5	1	4	3	6	7	4	3	5	5	5	6
Resp23	7	3	7	7	8	4	2	6	3	8	5	4	2	5	8	7	5	5	6	4	3	5
Resp24	7	2	3	8	7	3	2	4	3	7	4	4	8	7	7	6	7	5	4	5	5	6
Resp25	8	8	2	5	6	3	4	4	3	9	7	3	8	2	5	9	7	2	5	6	3	6
Resp26	9	7	5	5	6	2	4	3	5	1	4	3	4	5	7	6	4	9	8	7	4	8
Resp27	4	6	7	3	4	5	3	7	9	4	2	1	7	3	8	5	6	7	3	6	3	5
Resp28	4	7	5	5	3	6	8	5	6	9	3	4	5	8	7	2	5	2	8	6	4	4

Table F: Q-sort data per respondent, from statement 23 to 43.

	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
Resp1	9	7	8	2	4	4	7	7	3	1	8	3	4	6	8	3	3	5	6	1	5
Resp2	6	9	4	9	5	5	5	1	6	2	7	7	2	3	7	3	1	5	6	5	5
Resp3	6	7	8	5	4	4	4	3	3	3	2	3	3	3	9	2	2	9	1	5	5
Resp4	7	8	5	3	7	3	6	5	8	2	8	5	9	5	9	3	1	7	3	1	4
Resp5	8	7	3	6	7	5	1	2	5	2	8	4	4	6	9	5	3	3	6	4	7
Resp6	8	7	7	5	7	6	3	4	5	2	7	3	3	6	5	2	3	8	5	1	7
Resp7	3	5	6	9	4	3	1	7	6	3	7	3	7	2	5	2	1	8	5	3	4
Resp8	5	8	7	4	6	1	3	5	3	1	7	2	2	5	7	4	5	6	3	3	8
Resp9	5	9	8	5	8	4	4	3	7	1	4	3	6	7	7	3	6	5	5	1	3
Resp10	3	8	3	2	7	4	4	2	5	5	7	7	6	6	8	1	4	5	4	6	9
Resp11	9	7	5	8	8	7	1	2	8	2	7	4	9	5	5	3	2	3	3	3	5
Resp12	5	2	3	5	2	5	4	4	8	3	5	1	5	3	7	4	3	6	6	3	7
Resp13	3	8	7	9	8	3	2	6	6	2	8	3	1	7	6	4	2	5	5	1	4
Resp14	8	4	2	8	7	5	3	7	8	1	7	6	8	4	6	6	1	5	4	3	6
Resp15	8	5	6	7	4	3	1	7	5	1	7	4	9	5	7	2	3	7	3	2	4
Resp16	4	7	3	4	7	6	3	3	5	1	9	8	4	3	7	2	6	2	4	1	6
Resp17	4	7	7	3	6	4	2	5	5	3	7	1	7	6	6	2	5	8	8	3	1
Resp18	5	7	7	4	4	1	2	5	6	4	7	6	9	6	6	4	3	6	7	3	4
Resp19	2	7	8	1	3	4	5	3	2	5	9	4	8	6	7	4	2	5	5	3	4
Resp20	6	2	5	4	3	5	8	4	6	1	9	5	1	6	8	3	2	7	5	3	2
Resp21	7	3	5	4	4	5	5	5	7	2	7	1	8	6	3	4	2	6	4	2	5
Resp22	4	7	8	2	7	3	7	4	5	1	8	7	4	3	6	2	9	7	6	5	2
Resp23	9	6	7	3	5	4	4	1	7	2	9	4	6	6	8	3	3	2	5	1	6
Resp24	9	8	5	3	8	6	1	3	5	5	5	3	4	6	9	2	2	6	4	1	6
Resp25	7	5	5	6	4	4	1	4	8	4	7	1	5	5	6	3	2	6	7	3	7
Resp26	6	6	1	5	5	2	2	7	7	3	3	6	5	6	7	4	3	8	8	2	3
Resp27	8	4	5	5	5	4	2	6	8	2	6	2	8	3	7	7	9	4	6	1	5
Resp28	5	9	6	4	8	3	2	4	7	1	7	6	7	4	7	3	5	6	3	1	3

Appendix chapter 4

Table A: Table A Respondent list (in-depth and exploratory). In some of the interviews, two or more respondents took part, they are listed as separate respondents. Some respondents were interviewed more than once and therefore got the same pseudonym assigned in the list below.

Date	Organization type	In-depth/Exploratory	Pseudonym
17-1-2022	Agricultural company	In-depth	A1
9-3-2023	Agricultural company	In-depth	A2
24-8-2021	Cultural heritage groups	In-depth	C1
24-8-2021	Cultural heritage groups	In-depth	C2
19-1-2023	Cultural heritage groups	Exploratory	C3
19-1-2023	Cultural heritage groups	Exploratory	C4
19-1-2023	Cultural heritage groups	Exploratory	C5
16-3-2021	Farm (bulb)	In-depth	BF1
16-3-2021	Farm (bulb)	Exploratory	BF2
13-4-2021	Farm (bulb)	Exploratory	BF1
10-5-2021	Fam (other)	Exploratory	OF3
15-6-2021	Farm (bulb)	Exploratory	BF4
2-8-2021	Farm (bulb)	Exploratory	BF5
2-9-2021	Farm (bulb)	Exploratory	BF6
2-9-2021	Farm (bulb)	Exploratory	BF2
9-12-2021	Farm (bulb)	Exploratory	BF7
4-9-2022	Farm (other)	Exploratory	OF4
7-11-2022	Farm (other)	Exploratory	OF5
7-11-2022	Farm (other)	Exploratory	OF1
12-20-2022	Farm (other)	In-depth	OF2
6-4-2021	Farming advocacy organization	Exploratory	FA1
29-6-2021	Farming advocacy organization	In-depth	FA2
8-7-2021	Farming advocacy organization	In-depth	FA3
15-7-2021	Farming advocacy organization	In-depth	FA4
21-6-2022	Farming advocacy organization	Exploratory	FA1
10-3-2023	Farming advocacy organization	In-depth	FA5
20-8-2020	Government	In-depth	G1
25-3-2021	Government	In-depth	G2
20-7-2021	Government	In-depth	G3
26-7-2021	Government	In-depth	G4

Date	Organization type	In-depth/Exploratory	Pseudonym
19-8-2021	Government	In-depth	G5
30-8-2021	Government	In-depth	G6
2-9-2021	Government	In-depth	G7
10-1-2023	Government	In-depth	G2
30-1-2023	Government	In-depth	G8
7-2-2023	Government	Exploratory	G6
3-3-2023	Government	In-depth	G9
3-3-2023	Government	In-depth	G10
8-3-2023	Government	Exploratory	G11
9-3-2023	Government	Exploratory	G12
8-3-2023	Government	Exploratory	G13
12-3-2021	Nature organization	In-depth	N1
16-3-2021	Nature organization	Exploratory	N2
25-3-2021	Nature organization	In-depth	N3
20-4-2021	Nature organization	Exploratory	N3
13-7-2021	Nature organization	Exploratory	N4
22-7-2021	Nature organization	In-depth	N5
27-7-2021	Nature organization	In-depth	N6
6-8-2021	Nature organization	In-depth	N7
2-3-2023	Nature organization	In-depth	N8
7-3-2023	Nature organization	In-depth	N9
10-3-2023	Nature organization	Exploratory	N10
14-6-2021	Research institutes	Exploratory	R1
20-7-2021	Research institutes	In-depth	R2

Table B: List of observed events/meetings

Date	Meeting type	Theme	Attendees	Live/Online
21-6-2021	National Park partner meeting	Introduction of the National Park concept to local entrepreneurs and inhabitants	National Park team, forester from the State Forestry Services, entrepreneurs from the NPHD region, municipalities	Online
24-6-2021	National Park partner meeting	Presentation of the implementation program	National Park Team, civil servants from municipalities and the province, other partners	Online
1-10-2021	National Park partner meeting	Update on the official status of the National Park	Partners of the National Park	Live
27-10-2021	Administrative consultation	Spatial planning of the bulb region	Civil servants, economic board, representatives of bulb industry, association for cultural history, others	Online
7-12-2021	Meeting between researchers of the Living Lab, another research project on sustainability in the bulb region (ACCEZ) and a collective of young bulb farmers	Research questions from young bulb farmers	Researchers, young farmers, representative of farming advocacy organization	Online
16-12-2021	Presentation of research plans of the ACCEZ project	Sustainable bulb farming	Farmers, civil servants, researchers, farming advocacy organization representatives	Online
18-1-2022	Working group on area based collaboration	Basiskwaliteit natuur (baseline quality of nature) and partnership types	Partners of the Deltaplan Biodiversiteitsherstel	Online
18-1-2022	Research project meeting	Upscaling, inspiration and experiences in three living labs for biodiversity restoration	Researchers	Online
19-4-2022	Working group on area based collaboration	Basiskwaliteit natuur (baseline quality of nature), partnership for bees, training for area based collaboration	Partners of the Deltaplan Biodiversiteitsherstel	Online

Date	Meeting type	Theme	Attendees	Live/Online
26-4-2022	Partnerday	Progress of the Deltaplan Biodiversiteitsherstel	Partners of the Deltaplan Biodiversiteitsherstel	Live
20-6-2022	Partnerday	Pressure from recreation, comprehensive well-being in the park, stichting Wij.land	Partners NPHD	Live
24-6-2022	Working group on area based collaboration	Dutch National Parks, history of National Park Weerribben-Wieden, collaborations with farmers in National Parks	Partners of the Deltaplan Biodiversiteitsherstel	Live
12-9-2022	Working group on area based collaboration	Basiskwaliteit natuur (baseline quality of nature), nitrogen crisis, aanvalsplan landschapselementen, National Park gardens	Partners of the Deltaplan Biodiversiteitsherstel	Online
15-9-2022	Living lab evening for inhabitants and farmers	Hedges in the Dune and Flower Bulb Region, ecological research in the Living Lab	Local nature organization members, farmers, citizens, journalist, researchers	Live
24-11-2022	Working group on area based collaboration	Nitrogen crisis, area based collaboration in the Noord Veluwe, strategy and focus of the Deltaplan	Partners of the Deltaplan Biodiversiteitsherstel	Online
19-1-2023	Serious Game pilot	Circular economy in the bulb region	Farmer, employee of an agricultural company, researchers	Live
19-1-2023	Member evening of the bulb farming advocacy association	Nature-inclusive bulb farming	Members of two farming advocacy organizations	Live
31-1-2023	Policy consultation evening	Evaluation of the Intergemeentelijke Structuurvisie (ISG)	Farmers, civil servants, members of advocacy organizations and nature organizations	Live

Date	Meeting type	Theme	Attendees	Live/Online
1-2-2023	Living lab evening with young farmers	Development of a test location for sustainable bulb farming	Researchers, young farmers	Live
13-2-2023	Debate	The concept of National Park 3.0	National Park employees (different National Parks in the Netherlands), National Park partners, civil servants, representatives from nature organizations, researchers, students	Live
15-2-2023	Research presentation	The future of the bulb region	Farmers, researchers, farming advocacy organization representatives	Live
16-2-2023	Working group on area based collaboration	New governmental organization for the agricultural transition, transition zones, theory of change of the Deltaplan	Partners of the Deltaplan Biodiversiteitsherstel	Live
20-3-2023	Policy consultation day	National Programma Rural Areas (NPLG): plans for the coast and dunes of Zuid-Holland	A wide variety of stakeholders	Live
27-3-2023	National Park partner meeting	Sustainable management of golf courts	Partners NPHD, golfsector, gemeentes, waterschappen	Online
28-3-2023	National Park partner meeting	Visitor management and pressure from recreation in the National Park	Partners NPHD	Online
3-4-2023	National Park partner meeting	The concept of National Park 3.0	Partners NPHD	Online
17-4-2023	Working group on area based collaboration	Living Lab Alblasenwaard, Key Performance Indicators for Biodiversity	Partners of the Deltaplan Biodiversiteitsherstel	Live
23-5-2023	Working group on area based collaboration	Area based collaboration in Overijssel, Living Lab Fryslan, new position of the chairman	Partners of the Deltaplan Biodiversiteitsherstel	Online

Table C: Documents used for the analysis of landscape discourses

Document title	Document type	Organization	Year of publication	Pages
Gebiedsprogramma Bloeiende Bollenstreek	Regional policy programme	Gemeente Hillegom, Gemeente Katwijk, Gemeente Lisse, Gemeente Noordwijk, Gemeente Noordwijkerhout, Gemeente Teylingen (municipalities of the bulb region)	2016	54
Intergemeentelijke Structuurvisie	Regional spatial policy programme	Gemeente Hillegom, Gemeente Katwijk, Gemeente Lisse, Gemeente Noordwijk, Gemeente Noordwijkerhout, Gemeente Teylingen (municipalities of the bulb region)	2016	159
Omgevingsvisie Noordwijk deel A: Visie en realisatie	Municipal spatial policy	Gemeente Noordwijk (municipality within the bulb region)	2018	54
Vitale Teelt 2030	Sectoral vision/ programme	KAVB, Greenport NoordHollandNoord, Greenport Duin- en Bollenstreek, WUR (coalition of public and private organizations)	2018	11
Statusaanvraag Nationaal Park Hollandse Duinen	Vision and plans for the National Park	Nationaal Park Hollandse Duinen (National Park)	2020	51
Omgevingsvisie Hillegom	Municipal spatial policy	Gemeente Hillegom (municipality within the bulb region)	2021	120
Omgevingsvisie Lisse	Municipal spatial policy	Gemeente Lisse (municipality within the bulb region)	2021	110
Visie regionaal beleid Duin- en Bollenstreek 2.0	Regional vision focussed on bulb farming	KAVB, LTO Duin- en Bollenstreek (farmers advocacy organizations)	2021	7
Koersnotitie Omgevingsvisie Teylingen	Municipal spatial policy	Gemeente Teylingen (municipality of the bulb region)	2023	21

Table D: Documents used for the analysis of national discourses on agriculture

Document title	Document type	Organization	Year of publication	Pages
Deltaplan Biodiversiteitsherstel: In actie voor een rijker Nederland	Partnership program for biodiversity restoration	Deltaplan Biodiversiteitsherstel (public-private partnership)	2018	32
Visie Landbouw, Natuur en Voedsel: Waardevol en Verbonden	Vision document on sustainable farming	Ministerie van Landbouw, Natuur en Voedselkwaliteit (Ministry of Agriculture, Nature and Food Quality)	2018	21
Toekomstvisie gewasbescherming 2030	Vision document on crop protection	Ministerie van Landbouw, Natuur en Voedselkwaliteit (Ministry of Agriculture, Nature and Food Quality)	2019	6
Hoofdlijnennotitie Vitale Landbouw Zuid-Holland	Provincial policy plan for agriculture	Provincie Zuid-Holland (provincial government)	2020	12
Impact Rapport Transitiecoalitie Voedsel	Partnership program for the agricultural transition	Transitiecoalitie Voedsel (coalition for sustainable farmers led by private partners)	2021	17
Startnotitie Nationaal Programma Landelijk Gebied	National policy plan for rural areas	Rijksoverheid (national government)	2022	78
Groenboerenplan	Vision document on sustainable farming	Biohuis, Caring Farmers, Federatie Agro-ecologische boeren en Herenboeren Nederland (coalition of sustainable farmers)	2022	3
Toekomstvisie LTO 2030	Vision document on the future of farming	LTO Nederland (main agricultural lobby organization)	2022	42
Aanvalsplan Landschap	Policy advice on rural landscapes	Deltaplan Biodiversiteitsherstel (public-private partnership)	2022	44
In Beweging: Concept Landbouwakkoord 2040	Concept of a negotiated agreement on the future of Dutch agriculture, which was not signed in the end	Ministerie van Landbouw, Natuur en Voedselkwaliteit (Ministry of Agriculture, Nature and Food Quality)	2023	86
Toetsbaar Voorontwerp Zuid-Hollands Programma Landelijk Gebied	Provincial policy plan for rural areas	Provincie Zuid-Holland (provincial government)	2023	113

Table E: Codes used for the analysis of interviews, observation notes and landscape documents

Code	Description of code	Frequency
Definition of the landscape	How do actors or texts define the landscape? In terms of its boundaries, but also its name, character, nature, and purpose	157
Goals (Biodiversity)	What goals are formulated with regard to biodiversity	122
Goals (Bulb production)	What goals are formulated with regard to bulb production	81
Goals (other)	What other goals do actors or partnerships formulate	77
Event	Important events which not necessarily need to be external (shock event) or change the content or organization of partnerships or collaboration in the region	63
Solutions/Policy directions/lines of action	What kind of/type of solutions are proposed in policy documents, discussion, and interviews in relation to biodiversity and bulb production	435
Perspective on biodiversity	How do actors or texts describe or define biodiversity, and what are their normative, cognitive and expressive perceptions of it	120
Perspective on bulb production	How do actors or texts describe or define bulb production, what are their normative, cognitive, and expressive perceptions of it	151
Problem definition	What problems are defined in policy documents, discussion, and interviews in relation to biodiversity and bulb production	317
Shock events	External events which spurred changes in the region, for example the corona crisis	10
Responsibilities	Who is deemed responsible for solving stated problems, executing solutions, or attaining goals	220
Theory of Change	How and why do people expect that certain solutions/policy directions/lines of action will solve problems and thereby attain their goals	78
Policy/Documents	(Policy) documents to which people during interviews referred or which are mentioned in other documents (intertextuality)	129

Table F: Overview of discourses on the bulb region

Discourse	An open and agricultural landscape	An economically vital and sustainable landscape	A biodiverse and healthy landscape
Identified drivers hindering sustainable bulb farming or alternative land uses	Consumers demanding low costs bulbs, lack of space for bulb farm expansion	Consumers demanding low costs bulbs, trade agreements and international regulations	Consumers demanding low costs bulbs, spatial policies prohibiting other land uses, lack of resilient bulb varieties
Proposed actions	Maintaining conventional bulb farming without stricter environmental legislation, market-based spatial policies	Decreasing pesticides use through technological innovations	Prohibiting the use of (certain) pesticides, changing spatial policies to enable other forms of land use
Institutionalization	Through municipal spatial policies, symbols, storylines on the landscape and partnership (Geestgrond)	Vision documents, regional certification program, experimental field, and partnership (Greenport)	None
Type of change	No change	Incremental change	Transformative change
Representative respondents	C1, C2, C3, C4, C5, G5, G7, N1, N6, N8, N2	A1, A2, BF1, BF2, BF4, BF5, BF6, BF7, OF4, OF5, FA1, FA2, FA3, FA4, FA5, G1, G2, G6, G8, G11, G12, G13, N3, N4, N10, R2	OF1, OF2, OF3, OF6, G3, G4, G9, G10, G14, N5, N7, R1
Representative documents	Intergemeentelijke Structuurvisie, Visie regionaal beleid Duin- en Bollenstreek 2.0	Gebiedsprogramma Bloeiende Bollenstreek, Omgevingsvisie Noordwijk, Vitale Teelt 2030, Omgevingsvisie Hillegom, Omgevingsvisie Lisse, Koersnotitie Omgevingsvisie Teylingen, Statusaanvraag Nationaal Park Hollandse Duinen	None

Appendix chapter 5

List A Overview of topics and questions discussed in the in-depth and exploratory interviews (for all interviews, specific questions for the actor and specific partnerships of which the actor was related to were added)

- Role of the actor in the landscape and organization in which he/she is working
- Perception of the Dune and Bulb region (how does the actor define the landscape)
- Perceived impact of history of the region (e.g. policies and culture) on the present day situation
- Challenges that the landscape are facing (in general, not only biodiversity)
- Current status of biodiversity in the landscape
- Opportunities for biodiversity restoration in the landscape
- Factors that enable or hinder biodiversity restoration in the landscape
- Enabling or hindering policies at the European, national, provincial or local level
- Expected futures of the landscape (what do actors think the landscape will move towards)
- Desired futures of the landscape
- Undesired futures of the landscape

Partnership related questions

- Role of actor/organization in the partnership
- Goals of the partnerships
- History of/developments in the partnership
- Partnership activities
- Current impacts of the partnership
- Expected (future) impact of the partnership
- Conditions that enable the partnership to have impact
- Conditions that hinder the partnership to have impact
- Relationship of partnership with other partnerships or initiatives within the landscape or beyond

Table A: Respondent list (in-depth and exploratory). In some of the interviews, two or more respondents took part, they are listed as separate respondents. Some respondents were interviewed more than once and therefore got the same pseudonym assigned in the list below.

Date	Organization type	In-depth/Exploratory	Pseudonym
17-1-2022	Agricultural company	In-depth	A1
9-3-2023	Agricultural company	In-depth	A2
24-8-2021	Cultural heritage groups	In-depth	C1
24-8-2021	Cultural heritage groups	In-depth	C2
19-1-2023	Cultural heritage groups	Exploratory	C3
19-1-2023	Cultural heritage groups	Exploratory	C4
19-1-2023	Cultural heritage groups	Exploratory	C5
16-3-2021	Farm	In-depth	F1
16-3-2021	Farm	Exploratory	F3
13-4-2021	Farm	Exploratory	F2
10-5-2021	Farm	Exploratory	F5
15-6-2021	Farm	Exploratory	F6
2-8-2021	Farm	Exploratory	F7
2-9-2021	Farm	Exploratory	F4
2-9-2021	Farm	Exploratory	F8
9-12-2021	Farm	Exploratory	F9
6-4-2021	Farming advocacy	Exploratory	FA1
15-7-2021	Farming advocacy	In-depth	FA2
21-6-2022	Farming advocacy	Exploratory	FA1
17-1-2023	Farming advocacy	Exploratory	FA3
17-1-2023	Farming advocacy	Exploratory	FA4
10-3-2023	Farming advocacy	In-depth	FA3
20-8-2020	Government	In-depth	G1
25-3-2021	Government	In-depth	G2
20-7-2021	Government	In-depth	G3
26-7-2021	Government	In-depth	G4
19-8-2021	Government	In-depth	G5
30-8-2021	Government	In-depth	G6
2-9-2021	Government	In-depth	G7
10-1-2023	Government	In-depth	G2
30-1-2023	Government	In-depth	G8
7-2-2023	Government	Exploratory	G6

Date	Organization type	In-depth/Exploratory	Pseudonym
3-3-2023	Government	In-depth	G7
3-3-2023	Government	In-depth	G8
8-3-2023	Government	Exploratory	G9
8-3-2023	Government	Exploratory	G10
9-3-2023	Government	Exploratory	G11
12-6-2023	Government	Exploratory	G12
25-10-2023	Government	Exploratory	G6
12-6-2023	Government	Exploratory	G4
12-3-2021	Nature organization	In-depth	N1
16-3-2021	Nature organization	Exploratory	N2
22-7-2021	Nature organization	In-depth	N3
2-3-2023	Nature organization	In-depth	N4
25-10-2023	Nature organization	Exploratory	N2
17-1-2023	Nature organization	Exploratory	N2
2-2-2024	Nature organization	Exploratory	N5
20-7-2021	Research institutes	In-depth	R1

Table B: List of observed events/meetings

Date	Meeting type	Theme	Attendees
27-10-2021	Administrative consultation	Spatial planning of the bulb region	Civil servants, economic board, representatives of bulb industry, association for cultural history, others
7-12-2021	Meeting between researchers of the Living Lab, another research project on sustainability in the bulb region (ACCEZ) and a collective of young bulb farmers	Research questions from young bulb farmers	Researchers, young farmers, representative of farming advocacy organization
16-12-2021	Presentation of research plans of the ACCEZ project	Sustainable bulb farming	Farmers, civil servants, researchers, farming advocacy organization representatives
18-1-2022	Working group on area based collaboration	Basiskwaliteit natuur (baseline quality of nature) and partnership types	Partners of the Deltaplan Biodiversiteitsherstel
18-1-2022	Research project meeting	Upscaling, inspiration and experiences in three living labs for biodiversity restoration	Researchers
19-4-2022	Working group on area based collaboration	Basiskwaliteit natuur (baseline quality of nature), partnership for bees, training for area based collaboration	Partners of the Deltaplan Biodiversiteitsherstel
26-4-2022	Partnerday	Progress of the Deltaplan Biodiversiteitsherstel	Partners of the Deltaplan Biodiversiteitsherstel
12-9-2022	Working group on area based collaboration	Basiskwaliteit natuur (baseline quality of nature), nitrogen crisis, aanvalsplan landschapselementen, National Park gardens	Partners of the Deltaplan Biodiversiteitsherstel
15-9-2022	Living lab evening for inhabitants and farmers	Hedges in the Dune and Flower Bulb Region, ecological research in the Living Lab	Local nature organization members, farmers, citizens, journalist, researchers
24-11-2022	Working group on area based collaboration	Nitrogen crisis, area based collaboration in the Noord Veluwe, strategy and focus of the Deltaplan	Partners of the Deltaplan Biodiversiteitsherstel
19-1-2023	Serious Game pilot	Circular economy in the bulb region	Farmer, employee of an agricultural company, researchers
19-1-2023	Member evening of the bulb farming advocacy association	Nature-inclusive bulb farming	Members of two farming advocacy organizations

Date	Meeting type	Theme	Attendees
31-1-2023	Policy consultation evening	Evaluation of the Intergemeentelijke Structuurvisie (ISG)	Farmers, civil servants, members of advocacy organizations and nature organizations
1-2-2023	Living lab evening with young farmers	Development of a test location for sustainable bulb farming	Researchers, young farmers
15-2-2023	Presentation of research	The future of the bulb region	Farmers, researchers, farming advocacy organization representatives
16-2-2023	Working group on area based collaboration	New governmental organization for the agricultural transition, transition zones, theory of change of the Deltaplan	Partners of the Deltaplan Biodiversiteitsherstel
20-3-2023	Policy consultation day	National Programma Rural Areas (NPLG): plans for the coast and dunes of Zuid-Holland	A wide variety of stakeholders
28-9-2022	Symposium	Official launch of the Aanvalsplan Landschapselementen (battle plan for landscape elements)	Partners of the Deltaplan Biodiversiteitsherstel, Minister of Agriculture, Nature and Food Quality
11-3-2023	Webinar	Aanvalsplan Landschapselementen (battle plan for landscape elements)	Partners of the Deltaplan Biodiversiteitsherstel
31-10-2023	Member evening	Meadow birds and bulb birds	Members of ANLV Geestgrond
24-11-2023	Project day	Official launch of the Fieldlab Bol project	Bulb farmers, researchers, representatives of farming advocacy organizations, employees of agricultural companies
19-10-2023	Debate	Agricultural policy in the Netherlands	Farmers, politicians, representatives of farming advocacy organizations, employees of agricultural companies
21-11-2023	Partnerday	Accelerating biodiversity restoration	Partners of the Deltaplan Biodiversiteitsherstel
14-12-2023	Presentation	Official launch of the regional certification	Farmers, representatives of farming advocacy organizations, researchers, consultants
17-1-2024	Symposium	Demonstration field, fieldlab plans	Farmers, representatives of farming advocacy organizations, researchers, politicians, nature organizations

Date	Meeting type	Theme	Attendees
26-1-2024	Symposium	Bulb farming in the Netherlands, regional certification, societal support for bulb farming	Farmers, representatives of farming advocacy organizations, researchers
14-3-2024	Symposium	Bulb farming in the Netherlands, regional certification, societal support for bulb farming	Farmers, representatives of farming advocacy organizations, researchers
26-3-2024	Member evening	Partridge project, greening farmyards, bird population development	Members of ANLV Geestgrond

Table C: List of (policy) documents

Document title	Document type	Organization(s)	Year of publication	Pages
Gebiedsprogramma Bloeiende Bollenstreek	Regional policy program	Gemeente Hillegom, Gemeente Katwijk, Gemeente Lisse, Gemeente Noordwijk, Gemeente Noordwijkerhout, Gemeente Teylingen (municipalities of the bulb region)	2016	54
Intergemeentelijke Structuurvisie	Regional spatial policy program	Gemeente Hillegom, Gemeente Katwijk, Gemeente Lisse, Gemeente Noordwijk, Gemeente Noordwijkerhout, Gemeente Teylingen (municipalities of the bulb region)	2016	159
Omgevingsvisie Noordwijk	Municipal spatial policy	Gemeente Noordwijk (municipality within the bulb region)	2018	401
Vitale Teelt 2030	Sectoral vision/ program	KAVB, Greenport NoordHollandNoord, Greenport Duin- en Bollenstreek, WUR (coalition of public and private organizations)	2018	11
Deltaplan Biodiversiteitsherstel: In actie voor een rijker Nederland	Partnership program for biodiversity restoration	Deltaplan Biodiversiteitsherstel (public-private partnership)	2018	32
Raadsmemo gewasbeschermingsmiddelen Teylingen	Council memo	Gemeente Teylingen (municipality of the bulb region)	2019	2
Plan van aanpak Gewasbeschermingen en Volksgezondheid	Municipal plan	Gemeente Teylingen (municipality of the bulb region)	2019	4
Hoofdlijnennotitie Vitale Landbouw Zuid-Holland	Provincial policy plan for agriculture	Provincie Zuid-Holland (provincial government)	2020	12
Bos voor de toekomst: Uitwerking ambities en doelen landelijke Bossenstrategie en beleidsagenda 2030	National policy plan for reforestation	Ministry for Agriculture, Nature and Food Quality & the Association of Dutch Provinces (IPO)	2020	60

Document title	Document type	Organization(s)	Year of publication	Pages
Omgevingsvisie Hillegom	Municipal spatial policy	Gemeente Hillegom (municipality within the bulb region)	2021	120
Omgevingsvisie Lisse	Municipal spatial policy	Gemeente Lisse (municipality within the bulb region)	2021	110
Visie regionaal beleid Duin- en Bollenstreek 2.0	Regional vision focussed on bulb farming	KAVB, LTO Duin- en Bollenstreek (farmers advocacy organizations)	2021	7
7e Nederlandse actieprogramma betreffende de Nitraatrichtlijn (2022-2025)	Dutch Action Programme	Ministry of Agriculture, Nature and Food Quality & Ministry of Infrastructure and Water	2021	136
Ontwikkelingen in de biologische sector	Letter by the Minister	Ministry of Agriculture, Nature and Food Quality	2021	5
Statusaanvraag Nationaal Park Hollandse Duinen	Plan and vision for a new National Park	Nationaal Park Hollandse Duinen	2022	51
Startnotitie Nationaal Programma Landelijk Gebied	National policy plan for rural areas	Rijksoverheid (national government)	2022	78
Aanvalsplan Landschap	Policy advice on rural landscapes	Deltaplan Biodiversiteitsherstel (public-private partnership)	2022	44
Koersnotitie Omgevingsvisie Teylingen	Municipal spatial policy	Gemeente Teylingen (municipality of the bulb region)	2023	21
Toetsbaar Voorontwerp Zuid-Hollands Programma Landelijk Gebied	Provincial policy plan for rural areas	Provincie Zuid-Holland (provincial government)	2023	113
Landschapselementen 2023	Web page	Rijksdienst voor Ondernemend Nederland (Netherlands Enterprise Agency)	2023	18
Subsidies voor meer biodiversiteit in Zuid-Holland	Web page	Provincie Zuid-Holland (provincial government)	2023	3
Presentatie Plan van Aanpak Demoveld	Presentation on demonstration field	Students from the HAS Green Academy	2023	10
FieldLab Bol: Samen naar een toekomstbestendige bollenteelt	Project presentation	Stichting FieldLab Bol	2023	74
Executive Summary Projectplan Regiocertificering Duin- en Bollenstreek	Project plan	Greenport Duin- & Bollenstreek	2023	1

Document title	Document type	Organization(s)	Year of publication	Pages
Regiocertificering in de Duin- en Bollenstreek Projectplan voor de ontwikkeling van een vitale teelt in een gezonde omgeving	Project plan	Greenport Duin- & Bollenstreek	2023	45
Project Patrijs in de Duin- en Bollenstreek	Project plan	ANLV Geestgrond	2022	58
De transitie naar natuurinclusieve bollenteelt	Project plan	Bente Marien, Cheyenne Vonk, Tessa Riem	2024	74
Ruim vier km inheemse erfbeplanting teruggebracht in Duin- en Bollenstreek	Interview	Nationaal Park Hollandse Duinen	2024	2
Hagen en stepping stones in de Bollenstreek: Biotoopverbeteringen voor de patrijs	Report on biodiversity measures	ANLV Geestgrond	2024	88
Ontwerpplan Fieldlab Bollenstreek: Samen Bouwen aan een Bloeiende Bollenstreek	Project plan Fieldlab	Greenport Duin- & Bollenstreek	2023	25

Table D: *List of news articles*

Article title	Medium/Newspaper	Date of publication
Alliantie Rijnland en GOM	Leidsch Dagblad	3-3-2018
Lopen door een voorjaarskunstwerk	NRC Handelsblad	21-4-2018
'Groene 'tulpen in de vaas	Leidsch Dagblad	6-2-2018
'Gezonde toekomst streek vergt maatwerk'	Leidsch Dagblad	3-7-2018
Bloembollensector aan de slag met Vitale Teelt 2030	Boerderij Vandaag	30-8-2018
'Voor een eerlijk verhaal én een beetje zen'	Leidsch Dagblad	29-7-2019
'Het RIVM liet het gewoon gebeuren'	Leidsch Dagblad	30-12-2019
ANLV Geestgrond wil bollentelers stimuleren om maatregelen te nemen voor de patrijs	Agraaf	5-8-2020
Actie nodig om patrijs in Bollenstreek te behouden	Leidsch Dagblad	28-7-2020
Noordwijkse steun voor bollenteelt	Leidsch Dagblad	24-8-2020
Noordwijkse steun bollenteelt	Leidsch Dagblad	25-8-2020
Hekken in Bollenstreek moeten worden vervangen door heggen en hagen	Leidsch Dagblad	16-9-2021
Bollenstreek krijgt meer heggen en hagen	Nieuwe Oogst	18-9-2021
Kilometer heggen en hagen voor patrijs in Bollenstreek	Agraaf	5-6-2021
'Patrijs hoort in Bollenstreek'; Initiator patrijzenproject blij met premie van Deltaplan Biodiversiteitsherstel	Boerderij Vandaag	17-9-2021
1000 meter heggen en hagen voor de patrijs	Agraaf	16-12-2021
Groene Combinatie lanceert	Nieuwe Oogst	24-12-2021
Bescherm de bollenhagen'; interview Wim Granneman ijvert voor groen erfgoed	Haarlems Dagblad	19-5-2021
Cultuurhistorie nog altijd ondergeschoven kindje in Bollenstreek	Leidsch Dagblad	3-5-2021
Don Verhoeff lijsttrekker GroenLinks Teylingen	Leidsch Dagblad	21-12-2021
Zonnevelden mogen straks ook in Hillegoms 'Hollandse weides'	Leidsch Dagblad	26-2-2021
Teylingen gaat trekken aan biodiversiteit	Leidsch Dagblad	17-9-2021
Teylingen kan meer doen voor beschermen van vogels	Leidsch Dagblad	6-4-2021
Bijenplantjes voor een prikkie tijdens Zaaidagen	Haarlems Dagblad	22-4-2021

Article title	Medium/Newspaper	Date of publication
Robert Heemskerk is met zijn bedrijf Natural Bulbs een pionier	Leidsch Dagblad	18-11-2021
Omgevingsvisie Lisse: in 2030 alleen nog duurzame bollenteelt	Leidsch Dagblad	31-8-2021
Heggen en bloemblokken voor patrijs rondom Bentwoud en Bollenstreek	Agraaf	12-12-2022
Boerenland moet rommeliger	NRC	9-12-2022
Drieënhalf ton voor groene projecten in de streek	Leidsch Dagblad	16-11-2022
CultuurHistorisch Genootschap Duin- en Bollenstreek maakt zich grote zorgen	Leidsch Dagblad	6-4-2022
Aanleg heggen en bloemblokken voor patrijs	Nieuwe Oogst	17-12-2022
Groen is leidraad voor nieuwe partij Progressief Teylingen	Leidsch Dagblad	14-2-2022
Run op boerencoach om bedrijven te verbeteren	Leidsch Dagblad	19-7-2022
Laten zien wat we op het bollenbedrijf doen'	Leidsch Dagblad	10-8-2022
Te veel fosfaat en bollengif	Leidsch Dagblad	15-8-2022
Waterkwaliteit Bollenstreek onder de maat door fosfaat en bollengif	Leidsch Dagblad	13-8-2022
Landbouwportaal Rijnland voortvarend van start	Leidsch Dagblad	13-7-2022
Parkinson door pesticiden?	de Volkskrant	26-11-2022
Ontstaat parkinson door pesticiden?	de Volkskrant	25-11-2022
Over gif in de bollenteelt door de jaren heen	Leidsch Dagblad	7-10-2023
Bloembollensector kan in 2030 niet zonder chemische bestrijdingsmiddelen	Leidsch Dagblad	5-10-2023
Bollenvoorzitter Jaap Bond: 'Stop nou és een keer met dat jaartal 2030!'	Leidsch Dagblad	20-10-2023
Hoogleraar Martina Vijver: 'We moeten de biologische telers belonen voor hun lef'	Leidsch Dagblad	14-10-2023
John Huiberts, biologisch boegbeeld tegen wil en dank: 'Ineens denk je: het gaat niet goed'	Leidsch Dagblad	30-10-2023
Jonge bollenkwekers werken aan duurzaam keurmerk 'We moeten als Bollenstreek laten zien waar we mee bezig zijn'	Leidsch Dagblad	8-11-2023
Sierteeltsector worstelt met duurzaamheid als verkoopargument	Nieuwe Oogst	11-3-2023
Langs de Oude Beek staat de mooiste en langste haag van de Bollenstreek	Haarlems Dagblad	2-2-2023

Article title	Medium/Newspaper	Date of publication
Op een elektrische tractor stopt de wethouder de eerste Lissese bio-bollen in de grond	Leidsch Dagblad	10-11-2023
Lisse wil voortaan louter biologische bollen, maar telers zijn nog niet overtuigd	Leidsch Dagblad	25-4-2023
De giftige realiteit van Tulpen uit Amsterdam	Leidsch Dagblad	7-10-2023
Na Lisse stapt ook Teylingen over naar duurzame bloembollen	Leidsch Dagblad	2-6-2023
Rijnsburgse kwekers strijden voor toekomst gebied	Leidsch Dagblad	27-8-2023
Belangstelling provincies: Regiocertificering is blauwdruk voor sector	Greenity	24-1-2024
Demoveld moet Fieldlab worden	Greenity	26-1-2024

Table E: *List of parliamentary motions*

Motion title	Date	Political party
Motie van het lid Von Martels over faciliteren en ondersteunen van telers bij aanpassing van hun teeltstrategie	26-4-2018	CDA
Gewijzigde motie van het lid De Groot over beter beschermen van landschapselementen (t.v.v. 33576-148)	12-3-2019	D66
Motie van het lid Bromet over een registratiesysteem van landschapselementen	14-11-2019	GroenLinks
Motie van het lid Smeulders over landschappelijke waarden in kaart brengen door decentrale overheden	18-12-2019	GroenLinks
Motie van het lid Bromet over geen uitbreiding van het aantal hectares bloementeelt	14-3-2019	GroenLinks
Gewijzigde motie van het lid Ouwehand (t.v.v. 27858-465)	3-7-2019	PvdD
Motie van de leden Smeulders en Beckerman over 17 miljoen bomen planten voor 2040	9-6-2020	Groenlinks/SP
Motie van het lid De Groot over een langetermijnplanning voor autochtoon plantmateriaal	9-6-2020	D66
Motie van de leden Dik-Faber en Van Eijs over het aanvalsplan versterking landschappelijke identiteit opnemen in het omgevingsbeleid	29-10-2020	ChristenUnie/D66
Motie van de leden Bromet en Thijssen over inzetten op 10% groenblauwe dooradering voor de gehele landbouwsector	20-5-2021	GroenLinks/PvdA
Motie van de leden Amhaouch en Palland over verdere vermindering van de administratieve lasten van de NOW	8-7-2021	CDA/GroenLinks
Motie van de leden Van Raan en Maatoug over sierteeltproducten onder het algemene btw-tarief van 21% plaatsen	10-11-2021	PvdD/GroenLinks
Motie van de leden Tjeerd de Groot en Boswijk over het aandeel biologische bloembollen en perkgoed	20-5-2021	D66/CDA
Motie van de leden Bromet en Thijssen over een effectief systeem van vergoedingen voor herstel en onderhoud van ecologisch waardevolle landschapselementen	7-12-2022	GroenLinks/PvdA
Motie van de leden Grinwis en Valstar over een gezamenlijke crisisaanpak voor de glastuinbouw	8-3-2022	ChristenUnie/VVD
Motie van het lid Bromet over regelingen om het gebruik van fossiele energie voor de sierteelt te verbieden of te beperken	19-4-2022	GroenLinks

Motion title	Date	Political party
Motie van de leden Bromet en Thijssen over in het afschakelplan onderscheid maken tussen sierteelt en groente of fruit	19-5-2022	GroenLinks/PvdA
Motie van het lid Bisschop over zich verzetten tegen het verslechteringsverbod en natuurherstel in eigen hand houden	8-6-2023	SGP
Motie van de leden Akerboom en Bromet over onderzoeken hoe het areaal gangbare sierteelt beperkt kan worden	11-10-2023	PvdD/GroenLinks

Table F: *List of municipal motions*

Motion title	Date	Municipality	Political party
Minimaliseer blootstelling bestrijdingsmiddelen in Teylingen	6-6-2019	Teylingen	Groenlinks, PvdA
Omgevingsvisie Hillegom Actualisatie '20 Vossen Weerlanderpolder	15-7-2021	Hillegom	CDA, BBH
Heggen terug in Katwijk	15-12-2022	Katwijk	GemeenteBelangen
Bloeiend naar duurzaamheid	29-6-2023	Katwijk	D66, GemeenteBelangen, ChristenUnie
Inkoop biologische bloembollen	24-4-2023	Lisse	PvdA-Groenlinks, Nieuw Lisse, VVD, SGP-CU, CDA
Duurzame bollen	3-5-2023	Teylingen	GroenLinks, Partij voor Teylingen
Actieve stimulering van de transitie naar biologische bloembollenteelt	25-5-2023	Hillegom	GroenLinks, CDA

Table G: *List of codes*

Code Group	Subcode	Description of code	Frequency
Amplification processes	Frame amplification (beyond)	Depicting an initiative's interests and frame(s) as extending beyond its primary interests to include issues and concerns that are presumed to be of importance to potential adherents	4
Amplification processes	Growing (out)	Expanding the impact range, working in the same way across a geographical location, organization or sector	29
Amplification processes	Replicating (out)	Copying an initiative to a dissimilar context	1
Amplification processes	Value change (beyond)	Processes that aim to change people's values, norms, and belief through the work of the initiative by fostering new mind-sets, changing perceptions, and introducing new ways of relating and knowing as well as new value systems	16
Amplification processes	Institutionalization (beyond)	Processes that aim to impact higher institutional levels by changing the rules or logics of incumbent regimes. This means codifying the impact of initiatives into law, policy, or institutions by, for instance advocacy, lobbying, networking or supporting alternative visions and discourses	2
Amplification processes	Speeding up (within)	Increasing the pace by which initiatives create impact or are brought to fruition	6
Amplification processes	Spreading (out)	Disseminating core principles and approaches to other places with a dissimilar context	3
Amplification processes	Stabilizing (within)	Strengthening and more deeply embedding initiatives in their context, making them more resilient to up-coming challenges and ensuring that they last longer	30

Code Group	Subcode	Description of code	Frequency
Amplification processes	Transferring (out)	Taking an initiative and implementing a similar but independent one in a different place, adapted to the new but similar local context	2
Enabling conditions	Alignment between different institutions	Institutions adhering to the same policy goals, which can support the seeds	5
Enabling conditions	Alignment between policy goals	Coherence between policy goals, which creates a stable setting and clear outlook for the partnerships	7
Enabling conditions	Alignment between partnerships	Alignment in terms of goals between partnerships	6
Enabling conditions	Changing attitudes	Attitudes of target groups or participants, such as farmers, which have already changed and therefore enables the amplification of the partnership	7
Enabling conditions	Collaboration	Collaboration with partners in and outside the partnership, contributing to amplification	9
Enabling conditions	Coordination	Coordination between partnerships and other initiatives or societal partners	5
Enabling conditions	Financial support	Direct financial support for the activities of the partnerships	49
Enabling conditions	Health concerns	Increasing concerns around health, spurring the development of seeds on sustainable bulb farming	11
Enabling conditions	Inclusion in policies/payments	Partnerships, or their activities, being included in existing or new policies or payment schemes (such as the AES)	6
Enabling conditions	Market pressure	Pressure from market parties, or retail, to develop a more sustainable bulb farming sector	5
Enabling conditions	Policy goals	Policy goals that align with or support the goals of the partnerships	128
Enabling conditions	Political opposition	Criticism on bulb farming, spurring the development of sustainable bulb farming partnerships	8

Code Group	Subcode	Description of code	Frequency
Enabling conditions	Political support	Political support for the goals and activities of the seeds	24
Enabling conditions	Rules and regulations	(Upcoming) rules and regulations, spurring the development of partnerships for sustainable bulb farming or landscape elements	37
Enabling conditions	Societal pressure	Societal pressure to enhance sustainability of bulb farming, spurring the development of partnerships	30
Enabling conditions	Support from farmers	Farmers supporting the goals and/or activities of the partnerships, which contributes to their amplification	15
Goals	Goals	Goals for the region, as formulated by the partnerships and by relevant stakeholders	201
Important events	Important events	Events that were/are relevant for the development or amplification of the seeds	202
Policy documents	Policy documents	Policy documents that are referred to in other documents or in interviews or meetings	108
Seeds	Demonstration field	All quotes related to the demonstration field	167
Seeds	Partridge project	All quotes related to the partridge project	188
Seeds	Regional certification scheme	All quotes related to the regional certification scheme	226
What	What	What is being amplified (for example, sustainable practices or knowledge, or the presence of hedges)	78

Summary

Transformative landscape governance

*Unraveling the transformative potential of
partnerships for biodiversity*

Introduction

Biodiversity represents the diversity of life on earth, such as different plant and animal species, different ecosystems, and the genetic diversity within species. Our society is dependent on biodiversity for our food production, clean drinking water, clean air, but also for our mental wellbeing. Despite this existential dependence, human activities are threatening species and ecosystems worldwide. Though the conservation movement has made significant efforts to protect biodiversity, biodiversity continues to decline at an alarming rate. Because this focus on protecting nature, mainly via protected areas, has not sufficed, scientists and some policymakers are calling for transformative change.

Transformative change is defined by the Intergovernmental science-policy Platform on Biodiversity and Ecosystem Services (IPBES) as: “*A fundamental, system-wide reorganization across technological, economic and social factors, including paradigms, goals, and values*”. Transformative change for biodiversity thus refers to systemic, structural changes targeting the indirect drivers of biodiversity loss, such as unsustainable policies, economic systems focused on economic growth, and a focus on the instrumental value of nature instead of the intrinsic and relational value of nature.

According to the literature on transformative change, we need a new form of governance to realize such change: transformative governance. Transformative governance is directed at addressing the indirect drivers of biodiversity loss, such as production and consumption patterns. The specific framework I use in this thesis assumes that this should be done by combining integrative, inclusive, adaptive, transdisciplinary, and anticipatory governance approaches.

In this dissertation, I investigate the transformative potential of landscape-oriented partnerships in transformative change and governance for biodiversity by looking at their potential and actual contribution. Landscape-oriented partnerships, which bring together governmental, private, and/or civil society actors to manage biodiversity at a landscape scale, are increasingly seen as a potential policy instrument for transformative change. In the Netherlands, this is, for example, articulated in the recent policy changes for national parks, which stimulated parks to collaborate more with other actors in and around the park areas.

Despite the enthusiasm with which actors in the Netherlands, but also around the world, are working on landscape-oriented partnerships, empirical research on their

effectiveness and contribution to transformative change remains scarce. In this dissertation, I study their transformative potential using the literature on transformative governance (part 1) and discursive institutionalism (part 2).

Whereas the research in the first part on transformative governance focuses on how partnerships can contribute to transformative change, in the second part, I look at the interplay between landscape discourses, the strategies of partnerships to enhance their impact, and the institutional environment in which they operate. To do so, I use discursive institutionalism, a theoretical approach through which I could study how transformative discourses can change existing institutions or instigate the development of new institutions, but also how and why certain landscapes successfully resist transformative change.

In exploring the transformative potential of landscape-oriented partnerships, I look at the following elements: 1) do the partnerships support the intrinsic and/or relational value of nature, 2) do the partnerships address indirect causes of biodiversity loss, and 3) do they use transformative forms of governance to do so. In addition, I assume that these three elements are reflected in the discourses that partnerships articulate, and that transformative potential of partnerships is determined not only by the extent to which partnerships integrate these elements into their strategies, but also by the discursive and institutional conditions that influence their work.

Part 1 Transformative governance

In **chapter 2** I started my research by conducting a scoping review on the potential role of 214 landscape-oriented partnerships, which were studied across 85 scientific articles, in transformative change for biodiversity. In this chapter, I look at the goals of the partnerships, and how they try to achieve these goals.

The partnerships analyzed span multiple continents, with a strong representation in Europe (41%) but also significant cases in North America (18%), Africa (14%), Asia (14%), and South America (11%). The majority of the studied partnerships (80%) takes an ecosystem-based approach rather than focusing on single species, and nearly half (49%) pursue multiple objectives beyond biodiversity conservation, such as sustainable agriculture, fisheries management, and sustainable livelihoods.

Findings reveal that while 51% of partnerships focus solely on direct drivers (e.g., habitat restoration and species protection), 49% also address indirect drivers, such

as unsustainable agricultural and fisheries practices, attitudes towards nature, and biodiversity-relevant policies.

When looking at how they addressed direct and/or indirect drivers, I find that none of the partnerships adopted all transformative governance approaches. While most employ integrative and inclusive governance, fewer demonstrate adaptive (e.g., iterative learning and flexible management), transdisciplinary (e.g., combining scientific and local knowledge), or anticipatory (e.g., planning for long-term environmental uncertainties) governance.

As this study was based on cases described in academic literature, it did not shed light on why partnerships only employed part of the transformative governance approaches. For example, did they not have the capacity to work in a transdisciplinary manner, or do they not regard transdisciplinarity as necessary for protecting and restoring biodiversity?

In **chapter 3**, I therefore conducted case study research on one landscape-oriented partnership in the Netherlands to dive deeper into the perspective of partners in choosing a governance approach. In this chapter, I study the perspectives of partner organizations on the goals and governance of Nationaal Park Hollandse Duinen in the Netherlands. This national park in formation consists not only of protected nature areas but also includes urban and agricultural areas. Thus, they focus on the landscape as a whole, with the idea that to protect nature, we must also change our practices outside of the designated nature areas.

Using Q-methodology, I studied the perspectives of partners on the values that should underpin the park, the drivers that the park should address, and the governance approaches that the park should use. Based on Q-interviews with 28 partners, I found four distinct discourses on the park: prioritizing nature, experiencing nature, a new perspective, and spatial balance.

The discourses differ with respect to the indirect drivers of biodiversity loss they recognized and for which they see a role for the park, but they also differ in terms of which transformative steering approach they felt was important or relevant to the park. Perceived tensions between different elements of transformative governance are likely to play a role in this, as well as tensions between perceptions of landscape-oriented partnerships and transformative governance. The results of this chapter, in combination with the results of **chapter 2**, show that landscape-oriented partnerships can contribute to certain elements of transformative governance (e.g. integrative governance focused on both agriculture and nature),

but generally remain focused on challenges within the landscape rather than addressing indirect drivers outside of the landscape which do not have a direct impact on the biodiversity on the ground.

Part 2 Conditions for change

In part 2 I started to focus on a specific landscape within National Park Hollandse Duinen: the Dutch Dune and Flower Bulb Region. This landscape is famous for its flower bulb production, such as the production of tulip bulbs, and is seen as a predominantly agricultural landscape by most stakeholders. While the landscape is valued as part of Dutch cultural heritage, as a tourist attraction, and as an important export region, it also has its challenges concerning sustainability. As flower bulbs are non-food products, pesticide use is high. In comparison to other agricultural sectors in the Netherlands, there was not yet much attention to biodiversity, and experiments with organic agriculture are still scarce. Therefore, this landscape is an interesting case to study how transformative change can come about in an economically important, culturally valued landscape in which biodiversity is not yet on the agenda.

In **chapter 4**, I examined the role of landscape discourses in enabling and constraining transformative change for biodiversity in the Dutch Dune and Flower Bulb Region. This chapter assumes that landscape governance, for example via landscape-oriented partnerships, can only contribute to transformative change if the discourses on the landscape itself are transformative. In other words, does the discourse recognize the indirect drivers of biodiversity loss in the landscape and does it propose a way forward to address those indirect drivers. The transformative potential of landscape governance thus depends on the structuration and institutionalization of transformative and non-transformative discourses that compete in defining the landscape, its management, and agricultural practices.

I studied the landscape discourses in the Bulb Region based on 50 interviews, participant observation in 23 meetings, 2 evenings organized by the living lab, one workshop, and the analysis of 9 documents. Based on the triangulation of this data I found three competing landscape discourses: (1) a dominant 'open and agricultural' discourse that resists changes to conventional bulb farming, (2) an emerging 'economically vital and sustainable' discourse that promotes sustainability through technological innovation while maintaining existing farming practices, and (3) an unstructured 'biodiverse and healthy' discourse that questions the sustainability of bulb farming and proposes alternative land uses.

Findings indicate that the hegemonic discourse remains strongly institutionalized, largely due to its alignment with historical policies, regional identity, and economic interests. The emerging sustainability discourse, while incorporating biodiversity concerns, ultimately reinforces the status quo by framing sustainability within the existing agricultural system rather than challenging its fundamental structures. In contrast, the biodiverse and healthy discourse, though potentially transformative, lacks institutional traction due to weak actor coalitions, limited policy support, and a lack of alignment with broader governance frameworks.

This chapter shows how dominant landscape discourses, especially when strongly institutionalized, can hinder transformative changes for biodiversity. In the next chapter, I further explored this process by studying how three landscape-oriented partnerships in the Bulb Region try to contribute to changes for sustainability in general and biodiversity in particular, and how they are influenced by discursive institutional conditions.

Chapter 5 explores in particular how landscape-oriented partnerships can amplify their impact to drive transformative change. The study focuses on three partnerships that work on more sustainable bulb farming and restoring landscape elements, examining how different amplification processes shape their effectiveness.

In this chapter, I studied multiple types of amplification processes: 1) amplifying within—stabilizing and accelerating initiatives, 2) amplifying out—expanding, replicating, or transferring initiatives to other contexts, and 3) amplifying beyond—institutionalizing changes or shifting societal values. I have added two new processes to this list based on theory and my own empirical work: frame amplification and converting. Frame amplification is the broadening of a frame, such as a policy goal or the goal of a partnership, to thereby gain more support for that goal and thus be able to make more impact. With converting I refer to adapting an initiative's core principles to a different sector or issue within the same landscape.

Based on 42 interviews, participant observation in 28 meetings, and the analysis of 30 policy documents, 19 parliamentary motions, 7 municipal motions and 54 newspaper articles I have mapped the different amplification processes and conditions influencing the impact of the three partnerships. The findings indicate that interactions between different amplification processes are crucial—for example, stabilization often enables growth. However, while partnerships align with policy goals to gain support and enable stabilization and growth, this can limit

their transformative potential by reinforcing existing, non-systemic approaches. Frame amplification, or aligning initiatives with broader policy narratives, emerges as a double-edged sword. While it can secure funding and legitimacy, it may also dilute ambitions, leading to incremental rather than radical change.

The study further highlights the challenge of value change. Transformative change requires shifts in paradigms and values, yet the partnerships studied primarily focus on adapting to current or upcoming policies rather than altering underlying beliefs. For example, bulb farming initiatives emphasize technological solutions rather than challenging the dominant agricultural model, risking the stabilization of unsustainable practices.

On the basis of these findings, I propose three key strategies to enhance the transformative potential of landscape-oriented partnerships: 1) combining radical and incremental approaches, leveraging both disruptive and collaborative initiatives, 2) fostering supportive policies at multiple governance levels, as top-down regulations can catalyze but also constrain local initiatives, and 3) strengthening the role of regional and local governments in facilitating innovation and knowledge-sharing.

Conclusions and reflections

This dissertation explored the transformative potential of landscape-oriented partnerships in biodiversity governance. Through empirical and theoretical analyses, I developed six key insights for landscape-oriented partnerships and future research on transformative change and governance.

1. Limited contribution to transformative change

My research shows that landscape-oriented partnerships contribute only marginally to transformative change. While they address biodiversity challenges at the local level, they struggle to tackle the indirect drivers of biodiversity loss, such as economic and policy structures that favor agricultural intensification. Many partnerships align with integrative and inclusive governance approaches but rarely embrace adaptive, transdisciplinary, or anticipatory governance. The limited scope of their efforts raises concerns about their effectiveness in fostering transformative change. But, does that mean that we should not invest any more resources in landscape-oriented partnerships?

Based on my research, I see two reasons why landscape-oriented partnerships do have a role to play in transformative change for biodiversity. First, partnerships can find appropriate solutions or pathways for the local implementation of transformative goals and values. Second, landscape-oriented partnerships seem apt to contribute to integrative and inclusive approaches and can, in some cases, combine different governance approaches. However, in implementing these approaches, the partnerships are not always focused on indirect drivers.

2. External support is necessary

Landscape-oriented partnerships are shaped by broader institutional and discursive conditions, meaning they cannot drive transformation independently. This study finds that dominant landscape discourses, such as those prioritizing agricultural productivity, constrain the ability of partnerships to promote biodiversity-friendly practices. However, external transformative policies can act as catalysts, providing legitimacy and incentives for partnerships to pursue deeper change.

3. The need for complementary policy instruments

Because landscape-oriented partnerships generally lack the potential to bring about transformative change on their own, landscape-oriented partnerships should be complemented by other policy instruments and strategies, such as stricter environmental regulation and proactive advocacy for nature. For instance, while partnerships excel in fostering collaboration, they often lack the capacity and willingness to challenge or disrupt. Strategic litigation, protest movements, and policy interventions must take place alongside the development and amplification of landscape-oriented partnerships to phase out unsustainable practices and institutionalize biodiversity-friendly policies.

4. A new framework for transformative landscape governance

A key finding of this research was that, instead of five approaches to governance, as in the original transformative governance framework, in practice, three different transformative governance approaches within landscape-oriented partnerships appeared to be distinguishable, which I coined holistic, emancipatory, and reflective governance. Based on this, I created a new framework for transformative landscape governance (see Figure 24). Here, I do not only rearrange the current five approaches into three approaches, but I also distinguish between principles that should influence the thinking and actions of partnerships, and those that apply

primarily to the mix of instruments of which the partnership is a part. This distinction was important because my research showed that some of the current principles were difficult to translate into the direct practice of landscape-oriented partnerships, but they can play a role in the thinking and strategic embedding of the partnership.

5. Further research into discursive institutionalism and transformative governance

This research shows that discursive institutionalism can offer valuable insights into the conditions that can enhance and/or reduce the transformative potential of partnerships, as well as into the study of transformative change itself. However, in this study, I have not been able to explore how the different elements of transformative landscape governance, for example, the holistic, emancipatory, and reflective governance approaches described above, can contribute to the different stages of institutionalization of transformative discourses. This is therefore an important research question that could be explored in future research on transformative governance.

6. Further research into bringing about value shifts

This research shows the importance of value change in bringing about transformative change. However, a critical gap in current research is understanding how value changes—such as shifting public perceptions of biodiversity or reimagining agricultural landscapes—can be realized. Therefore, further research is necessary to understand how collaborative (landscape-oriented) initiatives, education, and policy interventions can foster transformative value shifts, for example towards supporting the intrinsic and relational values of nature.

Final remark

Although landscape-oriented partnerships seem to have a limited transformative potential, they can play a role in locally implementing transformative goals and values and contribute to integrative and inclusive governance at the landscape level. To strengthen their transformative potential, transformative discourses and policies must be developed both inside and outside the landscape, and the partnerships themselves can become more focused on combining holistic, emancipatory, and reflective landscape governance while addressing the indirect drivers of biodiversity loss.

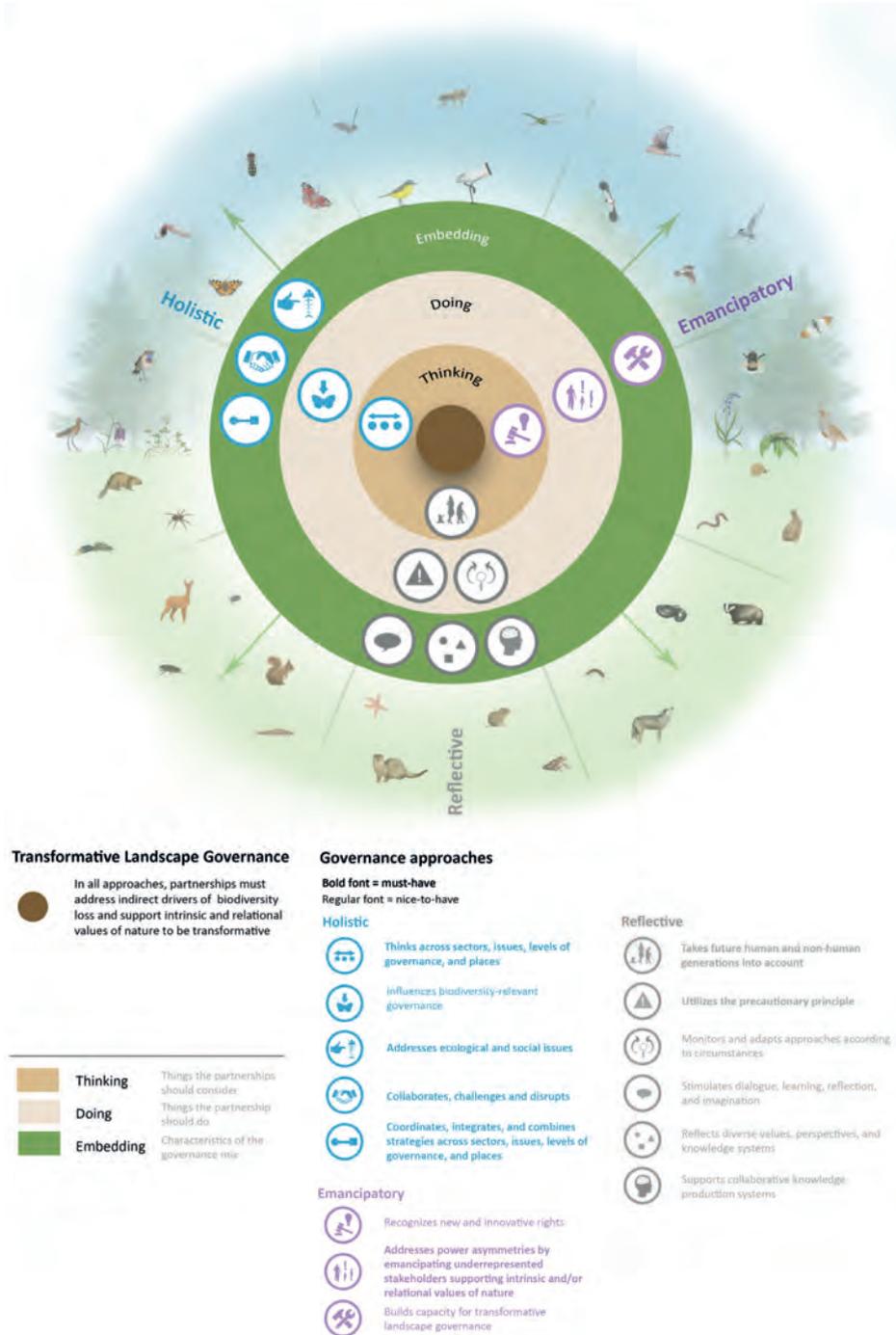


Figure 24: A visual representation of the transformative landscape governance framework designed by RO Visuals (Creative Commons BY-NC-ND 4.0).

Samenvatting

Transformatieve landschapssturing

*Het ontrafelen van het transformatief
potentieel van partnerschappen voor
biodiversiteit*

Introductie

Biodiversiteit staat voor de diversiteit van al het leven op aarde, zoals de diversiteit in planten- en diersoorten, maar ook de diversiteit in ecosystemen en de genetische diversiteit binnen soorten. Onze samenleving is afhankelijk van biodiversiteit voor onze voedselproductie, schoon drinkwater, schone lucht, maar ook voor ons mentaal welzijn. Ondanks deze existentiële afhankelijkheid staat de biodiversiteit wereldwijd onder druk door menselijke activiteiten. Ondanks decennia aan inspanning van natuurbeschermingsorganisaties blijft de biodiversiteit in een alarmerend tempo afnemen. Omdat deze focus op het beschermen van natuur, voornamelijk via beschermde gebieden, niet afdoende is, pleitten wetenschappers en sommige beleidsmakers voor transformatieve verandering.

Transformatieve verandering wordt door het Intergouvernementeel Platform voor Biodiversiteit en Ecosysteemdiensten (IPBES) gedefinieerd als “*Een fundamentele, systeembrede reorganisatie van technologische, economische en sociale factoren, waaronder paradigma’s, doelen en waarden*”. Transformatieve verandering voor biodiversiteit is dus een systemische, structurele verandering die gericht is op de indirecte oorzaken van biodiversiteitsverlies, zoals niet-duurzaam beleid, economische systemen gericht op economische groei en een focus op de instrumentele waarde van natuur in plaats van op de intrinsieke en relationele waarde van natuur.

Volgens de literatuur over transformatieve verandering is daarvoor een nieuwe vorm van sturing nodig: transformatieve sturing (*transformative governance*). Dat is een sturingsvorm die gericht is op het adresseren van indirecte oorzaken van duurzaamheidsproblemen zoals biodiversiteitsverlies, zoals de wijze van productie en consumptie. Het theoretisch kader dat ik in dit proefschrift gebruik, gaat ervan uit dat we hiervoor integratieve, inclusieve, adaptieve, transdisciplinaire en anticiperende sturingsbenaderingen nodig hebben.

In dit proefschrift onderzoek ik het transformatief potentieel van landschapsgerichte partnerschappen door te kijken naar hun actuele en potentiële bijdrage aan transformatieve verandering en sturing. Landschapsgerichte partnerschappen zijn vrijwillige samenwerkingsverbanden tussen overheden, marktpartijen en/of maatschappelijke organisaties die in een specifiek landschap werken aan het realiseren van gezamenlijke doelen, zoals bijvoorbeeld het herstel van biodiversiteit. Dit soort partnerschappen worden gezien als een potentiële manier om transformatieve verandering te bewerkstelligen. De populariteit van

deze vorm van sturing kwam in Nederland bijvoorbeeld tot uiting in de recente beleidswijzigingen rondom nationale parken, waarin nationale parken worden gestimuleerd om meer samen te werken met andere actoren in en rondom hun gebieden.

Ondanks het enthousiasme waarmee stakeholders in Nederland, maar ook wereldwijd, aan de slag gaan met landschapsgerichte partnerschappen is er weinig bewijs voor hun mogelijke bijdrage aan transformatieve verandering. In dit proefschrift onderzoek ik deze mogelijke bijdrage met behulp van de literatuur over transformatieve sturing (deel 1) en discursief institutionalisme (deel 2).

Waar het onderzoek in het eerste deel over transformatieve sturing gericht is op hoe partnerschappen kunnen bijdragen aan transformatieve verandering, kijk ik in het tweede deel naar de wisselwerking tussen de discoursen over de landschappen waarin de partnerschappen opereren, de acties die zij ontwikkelen om hun impact te vergroten en de institutionele omgeving waarin zij actief zijn. Hierbij maak ik gebruik van discursief institutionalisme, een benadering waarmee ik kan onderzoeken hoe transformatieve discoursen bestaande instituties kunnen veranderen of de ontwikkeling van nieuwe instituties kunnen stimuleren, maar ook de redenen kan onderzoeken waarom in bepaalde landschappen transformatieve verandering moeilijk te bewerkstelligen lijkt.

Bij het onderzoeken van het transformatief potentieel van landschapsgerichte partnerschappen kijk ik naar de volgende elementen: 1) steunen de partnerschappen de intrinsieke en/of relationele waarde van natuur, 2) adresseren de partnerschappen indirecte oorzaken van biodiversiteitsverlies, en 3) gebruiken ze daarvoor transformatieve sturingsvormen. Daarnaast ga ik ervanuit dat deze drie elementen terugkomen in de discoursen die partnerschappen uitdragen, en dat het transformatief potentieel niet alleen bepaald wordt door in hoeverre partnerschappen deze elementen integreren in hun strategieën, maar ook door de discursieve en institutionele condities die hun werk beïnvloeden.

Deel 1 Transformatieve sturing

In **hoofdstuk 2** ben ik mijn onderzoek begonnen met een verkennend literatuuronderzoek naar de potentiële rol van 214 landschapsgerichte partnerschappen, beschreven in 85 wetenschappelijke artikelen, in transformatieve verandering voor biodiversiteit. Daarbij heb ik gekeken naar waar deze partnerschappen zich op richten, en op welke manier deze partnerschappen dit probeerden te bewerkstelligen.

De meeste partnerschappen bevinden zich in Europa (41%), maar er is ook een groot aantal partnerschappen in Noord-Amerika (18%), Afrika (14%), Azië (14%) en Zuid-Amerika (11%). De meerderheid van de bestudeerde partnerschappen (80%) heeft een ecosysteemgerichte aanpak in plaats van zich te richten op één soort, en bijna de helft (49%) streeft meerdere doelen na naast het behoud van biodiversiteit, zoals duurzame landbouw, visserijbeheer en sociaal welzijn.

Uit de bevindingen blijkt dat 51% van de partnerschappen zich uitsluitend richt op directe oorzaken van biodiversiteitsverlies (bijv. herstel van habitatten en bescherming van soorten), maar dat 49% zich ook richt op indirecte oorzaken, zoals de drijfveren achter niet-duurzame landbouw- en visserijpraktijken, de houding van mensen ten opzichte van de natuur en beleid dat relevant is voor biodiversiteit in het landschap.

Bij de analyse van de manier waarop partnerschappen directe en/of indirecte oorzaken van biodiversiteitsverlies aanpakken, ontdekte ik dat er geen partnerschappen zijn die alle verschillende transformatieve sturingsbenaderingen combineren. Terwijl de meeste partnerschappen gebruik maken van integratieve en inclusieve sturingsbenaderingen, passen slechts enkele adaptieve (bijv. iteratief leren en flexibel beheer), transdisciplinaire (bijv. het combineren van wetenschappelijke en lokale kennis) of anticiperende (bijv. het plannen van milieuzekerheden op de lange termijn) toe.

Aangezien deze studie gebaseerd is op casussen die in de academische literatuur beschreven waren, kon ik op basis hiervan niet verklaren *waarom* partnerschappen slechts een deel van de transformatieve sturingsbenaderingen gebruiken. Hebben ze, in het geval van transdisciplinaire sturing, bijvoorbeeld niet de capaciteit om transdisciplinair te werken, of beschouwen ze transdisciplinariteit niet als noodzakelijk voor de bescherming en het herstel van biodiversiteit?

In **hoofdstuk 3** heb ik daarom een casestudy uitgevoerd naar een landschapsgericht partnerschap in Nederland om dieper in te gaan op het perspectief van partners bij het kiezen van een sturingsbenadering. In dit hoofdstuk bestudeer ik de perspectieven van partnerorganisaties van Nationaal Park Hollandse Duinen op de doelen en de sturing van het park. Dit nationale park in oprichting bestaat niet alleen uit beschermde natuurgebieden, maar omvat ook stedelijke en agrarische gebieden. Ze richten zich dus op het landschap als geheel, met het idee dat om de natuur te beschermen ook de praktijken buiten de aangewezen natuurgebieden moeten veranderen.

Doormiddel van Q-methodologie, een methode die kwalitatieve en kwantitatieve data combineert, onderzocht ik hoe partners denken over de waarden die ten grondslag zouden moeten liggen aan het park, de oorzaken van biodiversiteitsverlies die het park zou moeten aanpakken en de sturingsbenadering die het park hiervoor zou moeten gebruiken. Op basis van de Q-interviews met 28 partners blijken er vier verschillende discoursen over het park te zijn onder de partners: *natuur als prioriteit, natuurbeleving, een nieuw perspectief* en *ruimtelijk evenwicht*.

De discoursen verschillen met betrekking tot de indirecte oorzaken van biodiversiteitsverlies die ze erkennen en waarvoor ze een rol zien voor het park, maar ze verschillen ook in termen van welk transformatieve sturingsbenadering ze belangrijk of relevant vinden voor het park. Een belangrijke reden hiervoor is waarschijnlijk dat partners spanningen ervaren tussen de verschillende transformatieve sturingsbenaderingen, net zoals dat ze een mogelijke mismatch zien tussen hun beeld van landschapsgerichte samenwerking en het adresseren van indirecte oorzaken van biodiversiteitsverlies en prioriteren van biodiversiteit, elementen die volgens de theoretische literatuur over transformatieve governance wel nodig zijn.

De resultaten van dit hoofdstuk, in combinatie met de resultaten van **hoofdstuk 2**, laten zien dat landschapsgerichte partnerschappen kunnen bijdragen aan bepaalde elementen van transformatieve sturing (bijv. integratieve sturing gericht op zowel landbouw als natuur), maar over het algemeen gericht blijven op uitdagingen binnen het landschap in plaats van indirecte oorzaken van biodiversiteitsverlies buiten het landschap aan te pakken.

Deel 2 Voorwaarden voor verandering

In deel 2 ben ik me gaan richten op een specifiek landschap binnen het Nationaal Park Hollandse Duinen: de Duin- en Bollenstreek. Dit landschap staat bekend om zijn bloembollenproductie, zoals de productie van tulpenbollen, en wordt door de meeste stakeholders gezien als een overwegend agrarisch landschap. Het landschap wordt gewaardeerd als onderdeel van het Nederlandse culturele erfgoed, als toeristische trekpleister en als belangrijke exportregio. Maar het kent ook verschillende uitdagingen op het gebied van duurzaamheid. Het gebruik van pesticiden is hoog. In vergelijking met andere landbouwsectoren in Nederland is er nog niet veel aandacht voor biodiversiteit, en experimenten met biologische landbouw zijn nog schaars. Daarom is dit landschap een interessante casus om te bestuderen hoe transformatieve verandering tot stand kan komen in een intensief

gebruikt, cultuurhistorisch landschap waarin biodiversiteit nog niet (hoog) op de agenda staat.

In **hoofdstuk 4** onderzoek ik hoe de discourses in de Duin- en Bollenstreek over het landschap zelf transformatieve verandering voor biodiversiteit kunnen faciliteren of beperken. In dit hoofdstuk ben ik ervan uitgegaan dat landschapssturing, bijvoorbeeld doormiddel van landschapsgerichte partnerschappen, alleen kan bijdragen aan transformatieve verandering als de discourses over het landschap zelf transformatief zijn. Met andere woorden, erkent het discourse de indirecte oorzaken van biodiversiteitsverlies in het landschap en beschrijft het een oplossingsrichting om die indirecte oorzaken aan te pakken? Het transformatieve potentieel van landschapssturing hangt dus af van de vraag in hoeverre transformatieve en niet-transformatieve discourses over de grenzen van het landschap, de functies van het landschap en de manier waarop het landschap gebruikt wordt dominant worden en tot nieuwe institutionele patronen leiden die de bescherming en het herstel van biodiversiteit bevorderen.

Op basis van 50 interviews, participerende observatie in 23 bijeenkomsten, 2 door het living lab georganiseerde avonden, 1 workshop en de analyse van 9 documenten vond ik drie verschillende landschapsdiscourses over de Bollenstreek: 1) een dominant 'open en agrarisch' landschapsdiscours dat zich verzet tegen veranderingen in de conventionele bollenteelt, 2) een opkomend 'economisch vitaal en duurzaam' landschapsdiscours dat duurzaamheid promoot door technologische innovatie met behoud van bestaande landbouwpraktijken, en 3) een ongestructureerd 'biodivers en gezond' discours dat de duurzaamheid van de bollenteelt in twijfel trekt en alternatieve vormen van landgebruik voorstelt.

De bevindingen geven aan dat het dominante discours sterk geïnstitutionaliseerd is en lijkt te blijven. Dat komt door de sterke samenhang met de geschiedenis van het ruimtelijke beleid in de streek, regionale identiteit en economische belangen. Het 'duurzaamheidsdiscours' gaat over het optimaliseren van het bestaande systeem in plaats van de volhoudbaarheid van het systeem zelf te bevragen, waarmee dit discourse uiteindelijk de status quo versterkt. Het discours over biodiversiteit en gezondheid is daarentegen wel potentieel transformatief, maar mist steun van invloedrijke actoren, op lokaal én nationaal niveau.

Dit hoofdstuk laat dus zien hoe dominante landschapsdiscourses, vooral wanneer ze sterk geïnstitutionaliseerd zijn, transformatieve veranderingen voor biodiversiteit in de weg kunnen staan. In het volgende hoofdstuk heb ik onderzocht hoe drie verschillende partnerschappen in de Bollenstreek hun impact op verduurzaming en biodiversiteit proberen te vergroten.

Hoofdstuk 5 zoomt vooral in op hoe landschapsgerichte partnerschappen hun impact kunnen vergroten, een proces dat ook wel amplificatie wordt genoemd. Deze amplificatie kan verschillende vormen aannemen volgens de theorie: 1) amplificatie van het partnerschap zelf, bijvoorbeeld door de stabilisatie van het partnerschap of het versneld behalen van de doelen van het partnerschap, 2) amplificatie buiten het partnerschap, bijvoorbeeld door groei, replicatie en verspreiding van het partnerschap of de principes van het partnerschap, en 3) amplificatie voorbij het partnerschap, bijvoorbeeld door het beïnvloeden van maatschappelijke waarden en het bijdragen aan het institutionaliseren van nieuwe discoursen. Ik heb twee nieuwe processen aan deze lijst toegevoegd op basis van theorie en mijn eigen onderzoek: frame amplificatie en omzetting. Frame amplificatie is het verbreden van een doel, bijvoorbeeld een beleidsdoel of het doel van een partnerschap, met als intentie om hierdoor meer steun te verwerven voor dit doel en daarmee meer impact te maken. Met omzetting refereer ik naar het omzetten van de kernprincipes een initiatief, zoals een partnerschap, naar een andere sector. Ook kan omzetting plaats vinden naar een andere kwestie binnen hetzelfde landschap.

Op basis van 42 interviews, observaties in 28 bijeenkomsten en de analyse van 30 beleidsstukken, 19 parlementaire moties, 7 gemeentelijke moties en 54 nieuwsartikelen heb ik de verschillende amplificatieprocessen en condities in kaart gebracht die de impact van de drie partnerschappen beïnvloedt heeft. Het onderzoek laat zien dat als het gaat om het vergroten van impact vooral de interactie tussen verschillende amplificatieprocessen essentieel is. Stabilisatie is bijvoorbeeld cruciaal om groei mogelijk te maken. Tegelijkertijd kunnen dit soort combinaties ook het transformatief potentieel van een partnerschap beperken, bijvoorbeeld wanneer partnerschappen zich via frame amplificatie op niet-transformatieve beleidsdoelen richten om stabilisatie mogelijk te maken. Hoewel frame amplificatie kan bijdragen aan het vinden van financiering en het vergroten van legitimiteit, kan het ook ambities afzwakken, daarbij leidend tot incrementele in plaats van transformatieve verandering.

Naast het belang van interacties tussen amplificatieprocessen laat het onderzoek ook zien dat amplificatie voorbij het partnerschap de grootste uitdaging is. Transformatieve verandering vereist een verschuiving naar andere waarden, maar de bestudeerde partnerschappen richten zich vooral op aanpassen aan het huidige of aanstaande beleid in plaats van het veranderen van onderliggende overtuigingen van deelnemers. Partnerschappen in de bollenteelt leggen bijvoorbeeld de nadruk op technologische oplossingen in plaats van het dominante landbouwmodel te bevragen, waardoor het risico bestaat dat huidige, niet-duurzame praktijken worden gestabiliseerd.

Op basis van deze bevindingen stel ik drie strategieën voor om het transformatief potentieel van landschapsgerichte partnerschappen te vergroten: 1) het combineren van transformatieve en minder transformatieve partnerschappen en benaderingen, 2) het bevorderen van ondersteunend beleid op meerdere bestuurlijke niveaus, en 3) het versterken van de rol van regionale en lokale overheden bij het faciliteren van innovatie en kennisdeling.

Conclusies en reflecties

In dit proefschrift heb ik het transformatief potentieel van landschapsgerichte partnerschappen voor biodiversiteit onderzocht. Het resultaat hiervan zijn zes belangrijke inzichten voor landschapsgerichte partnerschappen en voor het verdere onderzoek naar transformatieve verandering en sturing.

1. Een beperkt transformatief potentieel

Uit het onderzoek blijkt dat landschapsgerichte partnerschappen slechts een beperkt potentieel hebben om bij te dragen aan transformatieve verandering. Ondanks dat ze biodiversiteitsproblemen op lokaal niveau kunnen aanpakken, lijken ze zich veelal niet te richten op het aanpakken van indirecte oorzaken van biodiversiteitsverlies, zoals economische en beleidsstructuren die de intensieve landbouw bevorderen. Veel partnerschappen richten zich op integratieve en inclusieve sturingsbenaderingen, maar zelden op adaptieve, transdisciplinaire of anticiperende sturing. Door deze beperkte bijdrage aan transformatieve verandering en sturing zou je vraagtekens kunnen zetten bij hun potentiële rol in transformatieve verandering. Maar betekent dit dan ook dat we helemaal niet meer moeten investeren in landschapsgerichte partnerschappen?

Op basis van mijn onderzoek zie ik twee redenen waarom landschapsgerichte partnerschappen wel degelijk een rol kunnen spelen bij transformatieve veranderingen voor biodiversiteit: Ten eerste kunnen partnerschappen passende oplossingen vinden voor de lokale implementatie van transformatieve doelen en waarden. Ten tweede lijken landschapsgerichte partnerschappen een bijdrage te kunnen leveren aan integratieve en inclusieve sturing en kunnen ze in sommige gevallen verschillende vormen van transformatieve sturing combineren, alhoewel in de implementatie van deze sturingsvormen er niet altijd gefocust wordt op indirecte oorzaken van biodiversiteitsverlies.

2. Externe steun is noodzakelijk

Landschapsgerichte partnerschappen worden sterk beïnvloed door de discursieve en institutionele omgeving waarbinnen ze opereren. Uit mijn onderzoek blijkt

bijvoorbeeld dat dominante landschapsdiscoursen, zoals die waarin prioriteit wordt gegeven aan een open landschap en exportgerichte landbouw, het vermogen van partnerschappen om biodiversiteitsvriendelijke praktijken te bevorderen beperken. Transformatieve discoursen en beleid van buiten het landschap kunnen echter als katalysator fungeren en op transformatie gerichte partnerschappen legitimiteit en stimulansen bieden om bij te dragen aan meer diepgaande veranderingen voor biodiversiteit.

3. Inzetten op combinaties van instrumenten voor transformatieve verandering

Omdat landschapsgerichte partnerschappen op zichzelf vaak de potentie missen om voor transformatieve verandering te zorgen, pleit ik ervoor om de inzet op landschapsgerichte partnerschappen aan te vullen met andere instrumenten, zoals strengere milieuregelgeving en proactieve belangenbehartiging voor de natuur. Waar partnerschappen uitblinken in het bevorderen van samenwerking, ontbreekt het hen vaak aan de capaciteit en bereidheid om niet-duurzame praktijken aan de kaak te stellen, laat staan om deze te ontwrichten. Om niet-duurzame praktijken uit te bannen, alternatieve praktijken aan te dragen en biodiversiteitsvriendelijk beleid te institutionaliseren hebben we naast partnerschappen proactief beleid vanuit overheden nodig, partijen die rechtszaken kunnen aanspannen die het natuurrecht en de naleving hiervan verdedigen en activistische organisaties die milieuproblemen en de aanpak hiervan op de publieke en politieke radar kunnen houden.

4. Een nieuw raamwerk voor transformatieve landschapssturing

Een belangrijke bevinding van dit onderzoek was dat in plaats van vijf sturingsbenaderingen, zoals in het originele transformatieve governance framework, er in de praktijk drie verschillende transformatieve sturingsbenaderingen binnen landschapsgerichte partnerschappen te onderscheiden blijken die ik holistische, emancipatoire en reflectieve governance heb genoemd. Op basis hiervan heb ik een nieuw raamwerk voor transformatieve landschapssturing ontwikkeld (zie Figure 25), waarbij ik niet alleen van vijf naar drie benaderingen ben gegaan, maar ook een onderscheid heb gemaakt tussen principes die het denken en doen van de partnerschappen moeten beïnvloeden, en de principes die vooral gelden voor de mix van instrumenten waar het partnerschap onderdeel van is. Dit onderscheid is van belang omdat mijn onderzoek laat zien dat sommige van de huidige principes lastig te vertalen waren naar de directe praktijk van landschapsgerichte partnerschappen, maar wel op het niveau van denken en in de bredere mix van instrumenten een rol kunnen spelen.

5. Meer onderzoek naar de relatie tussen discursief institutionalisme en transformatieve sturing

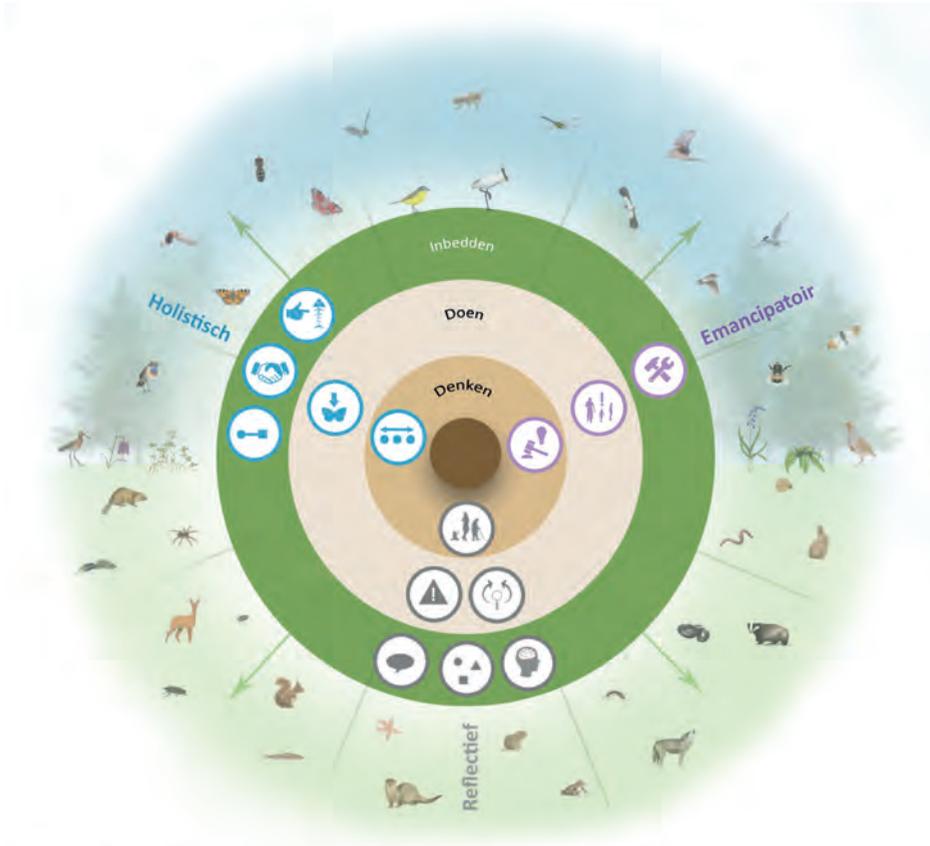
Dit onderzoek laat zien dat discursief institutionalisme waardevolle inzichten kan bieden in de condities die het transformatief potentieel van partnerschappen kunnen vergroten en/of verkleinen, alsmede in het bestuderen van transformatieve verandering zelf. Echter, in dit onderzoek heb ik niet kunnen onderzoeken hoe de verschillende elementen van transformatieve landschapssturing, bijvoorbeeld de hierboven beschreven holistische, emancipatoire en reflectieve sturing, kunnen bijdragen aan de verschillende stadia van de institutionalisering van transformatieve discoursen. Dit is daarom een belangrijke onderzoeksvraag die in toekomstig onderzoek naar transformatieve sturing onderzocht zou kunnen worden.

6. Meer onderzoek naar hoe we andere waarden kunnen stimuleren

Uit dit onderzoek blijkt dat waardeverandering van groot belang is voor het realiseren van transformatieve verandering. Een belangrijk hiaat in het huidige onderzoek is echter het begrijpen hoe veranderingen van waarden - zoals het verschuiven van de publieke perceptie van biodiversiteit of het herdefiniëren van agrarische landschappen - bewerkstelligt kunnen worden. Daarom moeten we verder onderzoek doen naar hoe (landschapsgerichte) samenwerking, educatie en beleidsinterventies duurzame waarden, zoals het erkennen van de intrinsieke en relationele waarden van natuur, kunnen bevorderen.

Tot slot

Hoewel landschapsgerichte partnerschappen een beperkt transformatief potentieel lijken te hebben, kunnen ze een rol spelen in het lokaal implementeren van transformatieve doelen en waarden en bijdragen aan integratieve en inclusieve sturing op landschapsniveau. Om hun transformatieve potentieel te versterken, moeten er zowel binnen als buiten het landschap transformatieve discoursen en beleid worden ontwikkeld en kunnen de partnerschappen zelf zich meer gaan richten op het combineren van holistische, emancipatorische en reflectieve landschapssturing in het adresseren van de indirecte oorzaken van biodiversiteitsverlies.



Transformatieve landschapssturing

Om transformatief te zijn moeten partnerschappen de indirecte oorzaken van biodiversiteitsverlies adresseren en de intrinsieke en relationele waarde van natuur erkennen

- Denken** - Elementen die het partnerschap zou moeten overwegen
- Doen** - Elementen die het partnerschap zou moeten doen
- Inbedden** - Eigenschappen van de sturingsmix

Sturingsbenaderingen

Dikgedrukt = Noodzakelijk
Niet-dikgedrukt = Wenselijk

Holistisch

- Sector-, problemen-, bestuurslaag- en gebiedsoverstijgend denken**
- Beïnvloeden van beleid dat relevant is voor biodiversiteit
- Adresseren van ecologische en sociale problemen
- Samenwerken, uitdagen en ontwrichten
- Coördineren, integreren en combineren van strategieën binnen verschillende sectoren, problemen, bestuurslagen en in verschillende gebieden

Emancipatoir

- Erkennen van nieuwe en innovatieve rechten
- Adresseren van ongelijke machtsverhoudingen door het emanciperen van ondervertegenwoordigde stakeholders die de intrinsieke en/of relationele waarde van natuur erkennen
- Bouwen van capaciteit voor transformatieve landschapssturing

Reflectief

- Rekening houden met toekomstige menselijke en niet-menselijke generaties
- Uitgaan van het voorzorgsprincipe
- Monitoren en aanpassen van benaderingen afhankelijk van de omstandigheden
- Stimuleren van dialogen, leren, reflectie en verbetering
- Weerspiegelen van verschillende waarden, perspectieven en kennisystemen
- Ondersteunen van gezamenlijke kennisproductie

Figure 25: Een visuele weergave van het raamwerk voor transformatieve landschapssturing, ontworpen door RO Visuals (Creative Commons BY-NC-ND 4.0).

About the author



Susan de Koning was born in Amsterdam on August 26, 1996. After graduating in 2014 from Geert Groote College Amsterdam with a specialization in Nature and Health, she began her studies in Forest and Nature Conservation at Wageningen University. During her bachelor's program, she majored in Ecology and Management and completed a minor in Marine Living Resources. She graduated cum laude, writing her bachelor's thesis on the migratory behavior of barnacle geese, which she conducted as an intern at the Netherlands Institute of Ecology (NIOO-KNAW).

She continued her studies at Wageningen University with a master's degree in Aquaculture and Marine Resource Management, specializing in Marine Governance. Her master's thesis focused on the role of social representations of nature in a conflict surrounding mussel fisheries in the Wadden Sea and was conducted at Wageningen Marine Research. Her internship at WWF–The Netherlands centered on communication with and education of small-scale fishers in the Dutch Caribbean.

After graduating, she worked as a marine governance researcher at Wageningen Marine Research, where she focused on offshore wind energy, fisheries, aquaculture, and local sustainability initiatives. In 2021, she began her PhD at Radboud University as part of the project Living Lab B7: Met Boeren, Bewoners, Bezoekers en Beleidsmakers werken aan een Betere Biodiversiteit in de Bollenstreek. Within this transdisciplinary project, she conducted social scientific research on landscape-oriented partnerships.

During her PhD, she was a guest researcher at the Stockholm Resilience Centre and presented her work at several international conferences, including the Earth System Governance conference in Toronto (2022), the Nordic Environmental Social Science conference in Turku (2024), and the European Society for Rural Sociology conference in Riga (2025).

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