An exploration of actors' perceptions of the impact of green-blue networks on effective actor collaboration

A case-study of a community-based process in the Hoeksche Waard, the Netherlands

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The world in two

The World so pure had just awoke
In all her perfect harmony
Then Reason just appeared and spoke
"From now you are dichotomy"

Nature I call all the green
The world which evades men
And Culture will be men so keen
And everything they can

As such the world went on in two
In different place they dwelt
But on the boarders of their realms
Strife continued to be held

Until one day Reason did see
That green was part of cultural
And all which was humanity
Related to what was natural

Now Reason spoke again and said
"Dichotomy be gone"
Culture and Nature went hand in hand
The World again became one.

(Personal Poem)

View on Strijen (Personal Photograph, 2014)

Preface

The poem in a way describes my personal motivation for choosing to write my thesis on green-blue networks. Even in the relatively short time span of my life, I have seen the agricultural landscape been transformed; fighting the remaining patches of nature adjacent to the agricultural fields, increasing the economic efficiency of the landscape. In the same way, I have witnessed nature being developed regardless any interests of local actors, restricting alternative forms of land use.

New ways of looking at this dichotomy have recently been announced. Green-blue networks and landscape services provide conceptual instruments to overcome this tension and turn it into a symbiosis. Although there have also been uttered sensible critiques on the concept, I am convinced of its potential to contribute to sustainable landscape development. With this research I want to contribute to the expansion of the knowledge base on green-blue networks.

The research institute of Alterra Wageningen gave me the opportunity to elaborate on this topic and largely facilitated parts of this research. I am sure that in my professional career, the lessons I learned on green-blue networks and community-based planning will come in handy. As planning assignments will become more complex due to decentralisation and participation, decent understanding of actor collaboration can help me deal with complexity. Hopefully, this report, in its turn, will contribute to help other future planners or researchers to deal with such situations as well.

Koen Staals

Acknowledgement

This thesis could not have been carried out without the help and support of several people. Therefore, I would like to make use of this opportunity to express my gratitude towards the following persons.

Firstly, I want to thank all the participating actors who took the time to elaborately answer my questions during the interviews. As if that was not enough, most of them even participated a second time in the workshop that I organised with the help of SOHW. After interviewing 13 actors I can convincingly say that people in the Hoeksche Waard are very open and hospitable and it was a pleasure for me to conduct the interviews. Without their knowledge and useful insights I would not have been able to come to this result.

I would also like to express my gratitude towards my supervisors who, especially in the first and last stage, helped me focus my research and provided me with ample tips on relevant theory and methodology.

Besides my supervisors, I would also like to thank my fellow thesis students as I had the honour to be a part of a very motivated and supportive study group. The meetings and discussions we had together certainly contributed to the quality of this study and thesis report. As did the critical review of my concept report, conducted by my good friend and roommate whom I am grateful for his help.

Lastly, I would like to thank my loving family who have always supported me throughout my education and who always motivated me to stay on track. Thank you Mom and Dad.

Summary

Within the Netherlands and other Western European countries, community-based planning as an approach for landscape development is gaining more attention (Vos & Meekes, 1999). The decentralisation of planning forces governments to include local actors in early stages of planning processes. This however, brings more complexity to the practice as more interests have to be accounted for, interests that often collide (Raoul Beunen & Opdam, 2011; Vink & Burg, 2006). Some scholars state that green-blue networks, as new forms of landscape design, address his tension and facilitate stakeholder deliberation (P Opdam, Steingröver, & Rooij, 2006). However, no literature exists on how actors perceive green-blue networks and how they value the impact of green-blue networks on their collaborative activities. Such insights might contribute to a better understanding of the impact of green-blue networks and further improve sustainable landscape planning for the future.

This study aims to increase insights in the actors' perceptions of the impact of green-blue networks on effective actor collaboration by means of a qualitative research approach. In order to do so, a case study research will be conducted on a community-based process in the Hoeksche Waard. In this area in the Netherlands, knowledge about green-blue networks has been introduced to local actors and applied by developing a green-blue network. By evaluating this case and exploring involved actors' perceptions of the relation between the green-blue network and the collaborative activities, more insight can be derived on the functioning of social-ecological systems.

This study made use of different methods to collect relevant data on the above mentioned topics. Semi-structured interviews with involved actors were conducted to collect data on actors' perceptions of the green-blue network and the changes in their relationships with other actors during the collaborative process. Furthermore, a workshop has been organised with several involved actors to jointly discuss statements on the impact of the green-blue network on their collaboration. Eventually, the collected data has been coded and analysed.

The results of the analysis provide several in-depth insights in a community-based process and recommendations for further research. Firstly, this study showed the awareness of actors of a relationship between the landscape structure and different benefits they individually obtained from this structure. However, due to insufficient economic value of certain benefits, incentives for collaborative development of the green-blue network diminished and further development faltered. The collective interest does not outweigh the self-interest of actors in the Hoeksche Waard. These observations possibly provide new incentives to further study actor valuation of ecosystem services.

Secondly, this case study led to the observation that local actors were able to adapt the green-blue network in order to make it generate new functions which addressed their interests and therefore expanded the benefits provided by this green-blue network.

Thirdly, this study reveals insight in the ability of the green-blue network to function as a boundary object in stakeholder deliberation and collaboration as it incorporates different interests of actors and therefore represents a shared interest.

Fourthly, research on the perceptions of actors of the social structure in the Hoeksche Waard showed that horizontal collaboration among actors had increased whereas vertical collaboration appeared not to. This observation suggests the increase of distance between actors on the local level and on the regional or national level as a result of the bottom-up approach which stimulates solidarity among local actors and horizontal collaboration.

Finally, this study supports the proposition that social-ecological systems are inherently complex systems. This study proves once more that no unambiguous relationships can be identified within social-ecological systems as actors adhere to different perspectives and multiple variables affect actor collaboration. Several of the variables identified in this study that affect actor collaboration concur with the list of variables as proposed by Ostrom and therefore further support some general assertions about actor collaboration and self-organisation. However, as several other variables, identified by the actors in this study, did not correspond to this predefined list, this study proves once more that further study on social-ecological systems and community-based planning is needed.

Table of Contents

Biodiversity on the dikes near Westmaas (Personal Photograph 2014)

1. Introduction

As every other research, this thesis starts with an introduction of the most important traits which define the purpose and position of the research. This chapter will first explain the background and relevance of this study, followed by the research objective and questions and end with an outline of the thesis.

1.1 Background

During the last couple of decades, the theory and practice of landscape planning is rapidly transforming in the Netherlands and other Western countries (Vos & Meekes, 1999). Landscape developments used to be steered by a technocratic government with little participation and influence of local actors. Nowadays however, planning officials appear to have embraced a more inclusive way of planning in which local users obtained power and responsibility for the quality of their own surroundings (Selman, 2004). Policy on landscape development has been decentralised which increases both legitimacy and complexity (Gerrits, Rauws, & de Roo, 2012; Vink & Burg, 2006; Vos & Meekes, 1999). Multiple actors with different perspectives and interests now ought to collaborate in a community in order to come to sustainable landscape use. This plurality in actors leads to a plurality in values that often conflict and obstruct the deliberation process (Buijs, Pedroli, & Luginbühl, 2006).

In order to address sustainable landscape planning with local actors, scientists have introduced new concepts for landscape design that should support professional planners and policy-makers (Leitao & Ahern, 2002). Green-blue networks or ecological networks are nowadays implemented in both urban and rural areas to integrate different interests, address effective scales, and facilitate stakeholder decision-making (Jongman, Külvik, & Kristiansen, 2004; P Opdam et al., 2006). Green-blue networks are landscape systems and incorporate human-environment interactions as they provide resources and services for multiple landscape users (P Opdam, 2013; Termorshuizen & Opdam, 2009). Hence, community-based processes on landscape planning can be perceived as social-ecological systems (Elinor Ostrom, 2009). The social-ecological system framework stresses the idea that social and ecological processes interact and therefore should be perceived and analysed as a dynamic and comprehensive system (Ban et al., 2013; Bryan, Raymond, Crossman, & King, 2011). Increased understanding of complex human-environment relations could enhance collaborative action among landscape users or actors (Ban et al., 2013; Raymond & Singh, 2013; Watson et al., 2005; Wilkinson, 2011). Moreover, increased understanding of human-environment relations might stimulate planning professionals to think in terms of socio-ecological systems (Liu & Opdam, 2014; P Opdam, Nassauer, Wang, & Albert, 2013).

However, not much research has been conducted on the perception of actors and their valuation of the physical green-blue network and the impact of this network on effective actor collaboration. According to Ostrom, more research on social-ecological systems and its variables is needed to improve policies on natural resource

management. By studying different cases and accumulating research data on SES, a broad database of scientific literature on SES is generated (Elinor Ostrom, 2009).

This study aims to learn from the experiences and perceptions of local landscape actors concerning the green-blue network. Did they benefit from this green-blue network and did it stimulate collaboration among parties or not? What can we learn from a community-based process in which a green-blue network has been implemented? To provide answers, this study intends to increase understanding on the role of the green-blue network in community based processes of landscape planning. In order to do so, this study will focus on a practical case in which the green-blue network has been applied and developed in a community-based process.

In 2004, a project has been initiated in the Hoeksche Waard, an area in the Netherlands, in which governmental parties brought together several local actors to jointly think about developing a green-blue network. This network consists of both "green" landscape elements such as dikes and verges, and "blue" landscape elements such as creeks, ponds and ditches. Together with a research institute, a workshop was held in which a green-blue network was designed which should facilitate natural pest control as an sustainable alternative on insecticides. At that time, several local farmers were looking for alternative ways to fight a certain type of louse in their crops. During this workshop knowledge about the relation between the green-blue network and its possible ability to reduce agricultural pests was brought to the attention of the local actors. After the workshop, the social structure of the Hoeksche Waard appeared to change as several initiatives for collaborative landscape conservation arose in which farmers, environmental groups and local governments participated (Steingröver, Geertsema, & Wingerden, 2010). Hence, the question can be raised whether this knowledge on the relation between the green-blue network and possible agricultural benefits has an impact on effective actor collaboration in the Hoeksche Waard.

The developments in the Hoeksche Waard form a valuable case for exploring actors' perceptions on the green-blue network and its relation to a process of community-based landscape planning. Increased understanding of their experiences and perceptions would provide new insights for further scientific research on the implementation of green-blue networks in community-based processes as an instrument for effective actor collaboration and add to the scientific database on social-ecological systems.

1.2 Research Objective

The objective of this case study is to increase understanding of the actors' perceptions and knowledges (plural) on the green-blue network and the impact of this green-blue network on effective actor collaboration during the community-based process in the Hoeksche Waard. Furthermore, this study also explores actors' perceptions on factors that influenced effective actor collaboration within the community-based process. The community-based process as carried out in the Hoeksche Waard will be elaborated in the following chapter but can be consisely defined as the process that started in 2004 with a workshop on the green-blue network and the subsequent implementation of this green-blue network by the actors until the start of this research in 2014. Although this

is still a broad description it does however give a timeframe of 10 years and delimits the explored activities by focussing on the activities that resolved around the implementation of the green blue network.
The qualitative research consists of semi-structured interviews with actors in the area of the Hoeksche Waard which were involved in the development of the green-blue network and the subsequent collaborative process that emerged in the area. The interview questions aim to reveal how actors perceive the green-blue network and how they perceive the influence of this network on collaborative activities. In order to do so, the interview questions will also aim to reveal actors' identification of important factors that affected collaborative activities and self-organisation of actors. More detailed and scientifically underpinned research questions will be provided after the theoretical framework.

1.3 Thesis Outline

This thesis will start with a description of the community-based process in the Hoeksche Waard in order to provide the necessary background on this central case. Although this might not be a common order for a report I am convinced it will improve the reader's understanding of the specific context in which this research took place. After this case description, a theoretical framework will be provided in chapter 3 which supports the subsequent research questions with elaborated theory and literature on the research topics. Section 3.1 positions this research in the context of the social-ecological system whereas sections 3.2 till 3.5 describe the central concepts used in the research questions. Subsequently, a methodology is presented in chapter 4 in order to explain the methodological steps that were taken to come to the results. As already mentioned, this research consists of a case study but within this case several methods (interviews, workshop, and observations) have been used to collect data. These data collection methods are described in section 4.2 till 4.4 and followed by section 4.5 which explains the applied techniques to safeguard validity and reliability. Chapter 5 will describe the researcher's position within this qualitative study. Eventually, the data will be presented in the results chapter (6) which, due to the qualitative approach of this study, will consist of a rather thick description of the insights derived from the case study. In chapter 7, a discussion is written in which the results will be placed into a theoretical context and critically reflected upon. This chapter will be followed by a conclusion (chapter 8) in which the main research question is answered and concisely be reflected on what we learned from this study.

The appendices I and II include the questionnaires and the setup of the workshop. Appendix III and IV include the coding themes and the translated quotes, used in the results chapter.

2. Introducing the case: The Hoeksche Waard

This study will focus on the situation in the Hoeksche Waard, a region in the Netherlands, located south of the city of Rotterdam (see figure 1). In this area, a project was initiated by some government parties and societal parties to develop a coherent green-blue network throughout the area in order for it to provide certain functions. This project was done in a bottom-up or community-based manner in which most parties of the local social network were involved and cooperated together (Steingröver et al., 2010). The case of the Hoeksche Waard is one of few cases in which green-blue networks have been actually implemented and the social actors are still working on its continuation. Therefore, this area provides a suitable case for a case study on the role of green-blue networks in a community-based planning process. In the following section the process in the Hoeksche Waard will be discussed elaborately in order to provide an accurate understanding of the context in which the study took place.

Figure 1. Topographical map of the Hoeksche Waard (Reprinted from Werkgroep Roofvogels Hoeksche Waard Oost, by M. Mollet, n.d., retrieved from roofvogels-hw.nl, 17 March, 2015).

The Hoeksche Waard is an area located in the South of Rotterdam. The area is enclosed by different water bodies and can only be entered by bridges and tunnels which, literally spoken, makes it an island. The main economic activity in the area is agriculture and more specifically arable farming and dairy farming. The polder consists of large parcels which results in an open and extensive landscape. However, several linear landscape elements interrupt this extensiveness and cover the area as a sort of raster. Such landscape elements consist of dikes, ditches, road verges, creeks and creek banks. The creeks form an old cultural element in the history of the Hoeksche Waard. Altogether, this mix of an open polder landscape and the different landscape elements provide a rather unique identity of the area.

In the beginning of the new millennium, the ministry of Environment (at that time named VROM), together with the province of South Holland were looking for an area to launch the first biodiversity action plan (BAP)[1]. The involvement of local actors was one of the ministry's preconditions for the selected area (HWodka, 2014). The governments offered a co-finance for the execution of the BAP project and several parties such as the local municipalities, the Water Board, the local agricultural organisation (LTO), the nature organisation (HWL) and the agricultural nature organisation (Stichting de Rietgors) were in this project. The Rietgors, being a foundation consisting of several parties including LTO, HWL, Water Board and local municipalities, brought up the idea to implement field margins in the Hoeksche Waard. An idea which initially was taken over from a project in the province of North-Brabant in which field margins were implemented but only with low factor of biodiversity. The Rietgors, together with the Water Board, had even already started a field margin project in the area which was then mainly focused on the buffer function it would provide for the percolation of nutrients in the surface water.

At the same time, a second project called FAB (functional agricultural biodiversity) was launched separately from the biodiversity action plan. This project was initiated by the ministries of Agriculture (LNV) and Environment (VROM) and the province of South-Holland. These parties got involved with the farmers organisation LTO who had the idea of running a pilot on natural pest control in which field margins would be implemented as a habitat for natural enemies. This project was launched and a research institute, named PPO and specialised on this theory on natural pest control in open air arable farming, was asked to join. Although first anxious to implement this theory in practice, the institute PPO eventually was convinced to cooperate with the pilot.

At a certain point in 2004, the two trajectories (BAP and FAB) partly coincided when the ministry of Environment and the province invited another research institute, Alterra Wageningen, to develop a practical design for the implementation of the theory on natural pest control in the area. This resulted in a workshop in which the research institute Alterra, together with all involved parties, jointly designed a green-blue network covering almost all of the Hoeksche Waard. Several suitable landscape elements such as dikes, creeks and ditches were identified by the local parties which resulted in a rough-grained landscape structure. Subsequently, remaining gaps in the network on the map were filled up with field margins which should create connections between certain elements and create a fine-grained network in between the rough elements.

Around 2004, another important development was happening which had been started out already in the previous decade. The Hoeksche Waard was lobbying within the national government to become a National Landscape. They had made an attempt to receive this title earlier in 2002 but then it had stranded because of the fall of the

[1] The biodiversity action plan was initiated by the ministry of environment (at that time VROM) and consisted of a bottom-up process in which local actors were involved to think about local biodiversity initiatives resulting in several projects and a policy document (Novio Consult, 2004).

cabinet Kok II. In the year 2005, the minister of Agriculture and Nature (LNV), Cees Veerman, had been invited to the Hoeksche Waard and he spoke out his enthusiasm for the area and its identical landscape consisting of the vast fields and the linear network of flowery landscape elements. Several actors claim that the visit of Veerman made people aware of the attractiveness of their surroundings and stimulated a new lobby, led by HWL and supported by LTO. This lobby eventually resulted in the acquisition of the National Landscape title in 2006 (HWodka, 2014).

Around 2005, local parties had taken on the initiative to collect money for the development of field margins and opened up an enrolment of farmers who wanted to join and set biodiversity margins on their fields. Several governmental parties provided finances for the execution of the project and the compensation of the cooperative farmers. The Water Board and the province paid for the compensation and the local municipalities, represented by their partnership organisation (SOHW), paid for the seeds. The Rietgors took on the role of coordinator and made sure the seeds, which were developed and composed by the University of Amsterdam (VU), was available for the farmers and that it could be collectively sown by a contractor.

In this period, a new organisation was established: Hoeksche Waard op de Kaart (HWodka). This organisation was an initiative of several innovative farmers who, according to themselves, were forced to set up their own foundation because of the lack of support in their own sector's organisation and ministry for innovation (personal communication). The main objective of HWodka was to increase the efficiency of farming in a sustainable way by implementing GPS techniques. With these techniques they were able to accurately calculate the most effective organisation of their fields and the quantities of nutrients. Throughout the field margins project they got more involved and played an important role in the further development of the margins.

Gradually, the number of field margins expanded and several farmers got convinced of the functionality of the margins for their pest control. The biodiversity increased as well and the landscape became more attractive as a result of the multiple flowery margins throughout the area. In 2008, the field margins project was officially concluded with a report and a presentation. Later on in the process, the parties decided that green-blue structure and its field margins should be included in the municipal landscape development plan (structuurvisie) in order to safeguard this concept in future policy (HWodka, 2014). The local municipalities agreed and the landscape structure was officially embedded in the municipality's policy.

Besides the implementation of the fine-grained network (field margins), the management of the rough-grained structure continued as well. The largest part of this rough-grained network was property of the Water Board and consisted of creeks, creek banks and dikes. For the management of these elements, the Water Board had together with the local municipalities established a foundation in 1997 called Groenbeheer. Groenbeheer outsourced the management to the nature organisation HWL and the agricultural collaboration for landscape management Delta Natuurbeheer. Together, these organisations cooperated to manage the rough-grained network in the Hoeksche Waard. In 2012 a notable event happened in which both the Water Board

and Groenbeheer were involved and which affected the social structure in the Hoeksche Waard to which will be referred later on in the report. At a certain time, Groenbeheer got in conflict with the Water Board because of the fact that maintenance work of the creeks was impeded by the ecological creek banks and field margins. The dredging could not be deposited on the land directly to the creeks but instead needed to be transported and deposited on the lands of local farmers who needed to be compensated for this. The Water Board stressed that these extra costs should be paid by Groenbeheer but Groenbeheer objected, resulting in a lawsuit which was won by Groenbeheer.

Near the time that the new Common Agricultural Policy[2] would be launched, the province and the Water Board announced the ending of their financial contribution. The Water Board declared they intended to return to their key objectives consisting of water quality and – quantity, and focus less on nature development. According to both government organisations, the European regulation would take over the financing when the field margins would be incorporated as one of the regulation's greening measures. However, since LTO managed to incorporate interception crops into the green measures as well (which are more lucrative for farmers), the persistence of the field margins was threatened. Several parties in the Hoeksche Waard, such as Rietgors and SOHW, did not give in but started a lobby at the ministry of Economic Affairs in order to find a solution for the unfavourable situation created by the lobby of LTO. Eventually, SOHW and Rietgors managed to come to a solution as a new regulation allowed farmers to pile greening measures by implementing both interception crops and field margins and acquiring allowances for both.

[2] The Common Agricultural Policy is a policy programme of the European Union which consists of agricultural subsidies and other regulations which are implemented by the national governments of the member states. A new reform of this policy has commenced in 2014 and focuses on "greening" the agricultural industry in Europe.

3. Theoretical Framework

This chapter will discuss several theories and concepts which are relevant for this study and provide a profound framework for the research questions. These questions will be inspired by the discussed concepts and follow after this chapter. First, the social-ecological system will be explained as it functions as the larger theoretical context in which this study is placed. Furthermore, the green-blue network, social networks, community-based planning and effective actor collaboration are further elaborated in order to provide consistent definitions for the research questions.

3.1 Social-Ecological System

The social-ecological system (SES) was first introduced by Elinor Ostrom as a framework for understanding human-environment interactions. Ostrom describes the working of a SES as follows: "*In a complex SES, subsystems such as a resource system (e.g., a coastal fishery), resource units (lobsters), users (fishers), and governance systems (organizations and rules that govern fishing on that coast) are relatively separable but interact to produce outcomes at the SES level, which in turn feed back to affect these subsystems and their components, as well other larger or smaller SESs* (Elinor Ostrom, 2009, p. 419)*".* This means that managing natural resource systems or influencing the outcomes of a natural resource system is a complex task as natural resource systems consist of a complex web of interacting systems, subsystems and elements which together define the outcomes of an SES. One of the major benefits of this framework is the fact that it incorporates social considerations. Social considerations were often ignored in many ecology-related disciplines such as conservation planning (Ban et al., 2013; Bryan et al., 2011). According to Ban et al. (2013) the framework represents the dynamic and evolved nature of links between the social and ecological components of a system (see figure 1). Conservation actions are directly incorporated in *"a complex web of social and ecological processes and interactions* (Ban et al., 2013, p. 3)". Basically, the SES theory stresses the reciprocal influence of social elements such as power balances and collaborative action on the physical landscape characteristics such as its structure and its ecological processes.

The case of the Hoeksche Waard can also be seen as a SES, consisting of a resource system (the landscape), resource units (the landscape elements), users (the different actors), and a governance system (the organisations and rules that govern the use of landscape elements).

Besides the SES framework's ability to expose human-environment interactions it also functions as an analytical tool to identify variables for self-organisation and actor collaboration within a SES. In her article, Ostrom lists ten variables that affect self-organisation and collective action for managing resources by actors. The proposed framework should contribute to the accumulation of insights on the variables that affect self organisation and collective action. Ostrom states that the framework: "*helps identify factors that may affect the likelihood of particular policies enhancing sustainability in one type and size of resource system and not in others* (Elinor Ostrom, 2009, p. 420). The variables mentioned by Ostrom will be discussed later on in this chapter in section 3.5 and will be used as a reference for the factors or variables that may be found in this research.

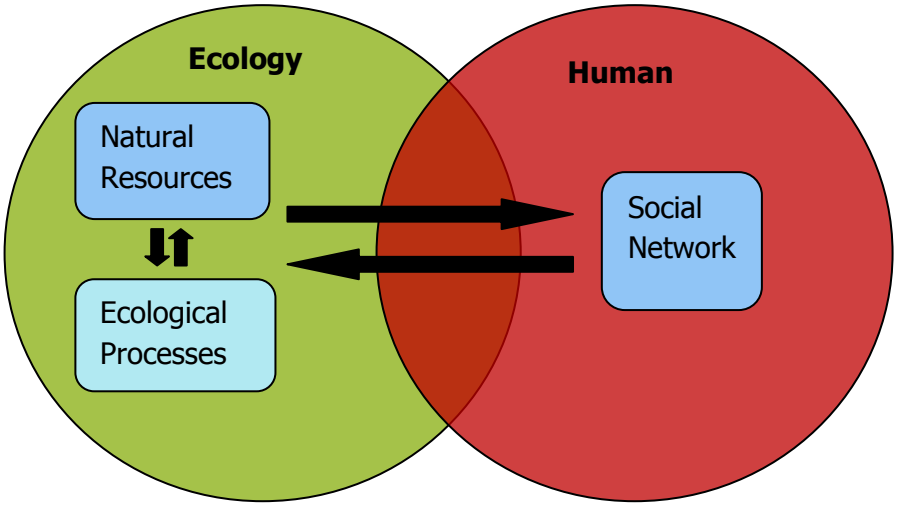

Figure 2. Social-ecological system: interaction between social and ecological components.

3.2 Social Network

In order to understand the possible impact of the green-blue network on the social dimension of a community it is necessary to provide some insights in the structure of a social network of actors. The social network forms an important component of the social ecological system and basically incorporates all the actors within the system and their interrelationships. In an article of Mills et al. about the role of the social network in conservation planning the social network is defined as "*the set of relationships of stakeholders involved in or affected by conservation initiatives, including individuals and government and non-government organisation* (2014, p. 3)". The social network has a relation to the collaboration among actors as the structure of such a network defines what types of social processes, such as collective action, can be facilitated (Mills et al., 2014). Social structure can have different meaning on different social scales but in this study will be defined as the patterned relationships and repetitive interactions between actors in a social network. Bodin and Crona (2009) mention four different processes provided by the social network which stimulate collaborative action: (1) generation and exchange of knowledge and information; (2) mobilisation and facilitation of resources; (3) commitment to common rules by actors; and (4) conflict management. These four processes can be compared with the five key dimensions of collaborative action, discussed in an article of Thomson and Perry (2006) and which can be briefly described as follows:

The process of collaborative governing: the governance dimension.
This dimension includes structures and agreements on participative decision-making and shared power arrangements. Parties have to come to agreements on how to govern collaborative activities and how to solve conflicts by means of deliberation and negotiation. This dimension partly overlaps with the first process of Bodin and Crona in which knowledge and information is exchanged among actors, stimulating participative decision-making.

The process of collaborative administration: the administration dimension.

In order to facilitate collaboration and come to a shared goal, an administrative structure is needed. In order to facilitate communication and collaboration, a boundary spanner of bridging organisation is often present in collaborative processes. This dimension can be compared with the second process of Bodin and Crona about mobilisation and facilitation of resources, both processes focus on facilitation of the collaborative process.

The process of reconciling individual and collective interests: the autonomy dimension.

This dimension addresses the dual identity of parties involved in collaborative processes. Organisations have to account for both their own interests and for the collective interest of the collaboration which often gives tension within organisations.

The process of forging mutually beneficial relationships: the mutuality dimension.

Collaboration is not based on information sharing only but on interdependence of parties. Parties need a shared interest from which they all benefit and a level of complementarity which makes them dependent from each other. If parties have no value for the collaboration they will be excluded. This dimension relates to the third process of Bodin and Crona as both processes focus on mutuality among actors.

The process of building social capital norms: the trust and reciprocity dimension.

This dimension addresses the social capital that is needed among parties to collaborate. The dimension represents the trust and commitment of parties towards each other in order to achieve a shared goal. This dimension can be compared to the third and fourth process of Bodin and Crona as both common-rules and conflict management depend on strong social capital among actors and the presence of shared norms.

Social capital as a concept is related to the social network and is best defined as "*a variety of entities with two characteristics in common: they all consist of some aspect of a social structure and they facilitate certain action of individuals who are within the structure* (Coleman, 1988, p. Unknown)". In short, it stands for the trust and reciprocity present between individuals which efficiently facilitates collaboration activities (Putnam, 2000). The social network can then be seen as the infrastructure on which social capital is exchanged. According to Mandarano (2009), collaboration activities enhance the social capital within a group of actors or a community and provide participants to share information, resources and funds. Therefore, the relationship between social capital and collaborative action appears to be reciprocal.

Other relationships between the social network and collaboration are mentioned in the article of Crona and Hubacek (2010). Their study reviewed several publications that address the role of social networks in environmental or resource management. The most important assertions from this study is that low density networks (networks containing few connections between actors) are associated with lower chance of

successful collaboration because of the lack of a common problem definition. Secondly, they state that the strength of the social tie influences the similarity of the actors' perceptions.

From the above mentioned literature it becomes clear that effective collaboration among actors depends on the structure of the social network and the existing social capital. It is therefore important for the proposed study to understand the structure of - but also the processes within - the social network in the case of Hoeksche Waard and explore whether the knowledge about the green-blue network affected this structure and its social capital. In order to do so, the study will (qualitatively) analyse whether important changes occurred within the characteristics of the social network such as the composition of the network and the interactions among the different actors.

3.3 The green-blue network

This section will elaborate on the concept of the green blue network. Furthermore, it will describe its relation to actor collaboration by introducing the concept of landscape services.

Within scientific discipline, the term green-blue network is not commonly used as scientists rather prefer the related term: ecological network. The green-blue network is defined by Steingröver et al. as *"the configuration of all semi-natural landscape elements to be a functionally coherent ecological network, called the green–blue network* (Steingröver et al., 2010)*".* There appears to be no clear scientific distinction between the green-blue network and the ecological network. In this study, it is chosen to use the term green-blue network as the term ecological network strongly emphasizes the ecological function of this concept. A green-blue network, however, can have multiple functions besides an ecological one (Henkens & Raffe, 2002). For example, it can also have a socio-cultural function as it increases scenic beauty of the landscape for local population (Franco, Franco, Mannino, & Zanetto, 2003).
Beneficial functions of the green-blue network can be called landscape services. A landscape service, as a concept, can be defined as a service directly or indirectly provided by the landscape structure (or the configuration of semi-natural landscape elements) to a user of the landscape. The landscape services concept is a reaction on the ecosystem service because the latter appeared insufficient applicable to the practice of landscape planning and the development of landscape policy (Termorshuizen & Opdam, 2009). In an article, Opdam et al. advocated for the use of landscape services in scientific articles and proposed three arguments to support this claim.

(1) Landscape services better associate with pattern-process relationships: since ecosystem services are only small parts of the complete landscape system, a shift towards landscape services would better address the pattern-process relationship[3] within this system;

[3] A pattern-process relationship can be defined as *"the effect of landscape patterns on ecological processes* (Turner, 1989, p. 172)".

(2) Landscape services better unify scientific disciplines: a landscape is a broader concept than an ecosystem because more disciplines can relate to landscapes (e.g. economy, social sciences);

(3) Landscape services are more relevant and legitimate to local practitioners: local actors are more familiar with the landscape concept as they perceive this as the place they live and work in (Termorshuizen & Opdam, 2009).

The relation between the green-blue network and landscape services can be further clarified with help of the structure-function-value chain. This scheme is also proposed by Termorshuizen and Opdam and shows the relation between the spatial characteristics of the landscape and the benefits or services provided by this structure for the actors who make use of the landscape. As shown in figure 3, the structure-function-value chain consists of three components: (1) the spatial structure of the landscape, (2) the function it provides, and (3) the value attached to this function by its users. The relation between the function of the landscape elements and the value attached to it is the service provided by the landscape, or, the landscape service.

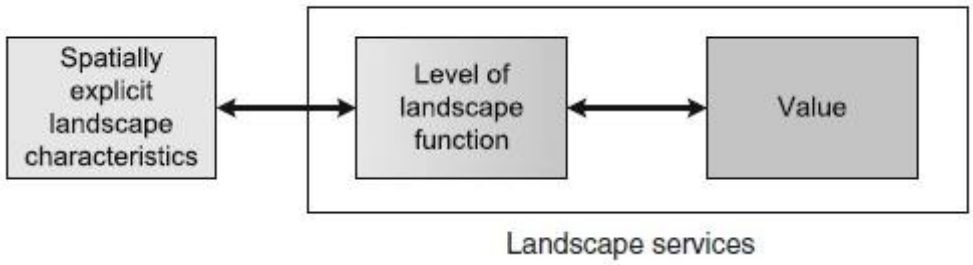

Figure 3. The structure-function-value chain as proposed by Termorshuizen and Opdam (2009).

Certain functions provided by the green-blue network only exist because of the configuration and the connection between the different semi-natural landscape elements. A habitat function for example, can only improve the biodiversity when elements such as dikes and creek banks are connected and form a larger green-blue network. The same goes for the natural pest control function which contributes to the control of pests by providing habitats for predators. This interrelatedness has certain implications for the scale and the management of landscape elements, providing a link between the green-blue network and actor collaboration.

Since certain landscape services such as natural pest control and increased biodiversity can only be generated in case the semi-natural landscape elements form a cohesive green-blue network, actors may be forced to collaborate in order to develop such a network. Both public and private land owners such as governments and individual farmers may be forced to apply and connect semi-natural elements in order to be able to obtain benefits such as increased biodiversity or decreased pests in their crops. The management of the green-blue network, consisting of different landscape elements, should be adjusted to a collective form of management in order to maintain its

function(s). This indirectly means that the different land owners are dependent on each other for the functioning of the green-blue network in order to provide benefits.

In the Hoeksche Waard, a workshop was organised by the research institute Alterra in 2004 in which knowledge about the functioning of the green-blue network was introduced to the local actors.

The main message brought to the actors was the assertion that the existing semi-natural landscape elements such as dikes, verges, creeks and banks should be connected to each other in order to develop a green-blue network which could serve as an ecological fundament for natural pest control. By adding field margins on agricultural lands, the existing semi-natural landscape elements could be connected. Furthermore, all of these landscape elements should be managed in an ecological way so that it would facilitate a habitat for natural enemies to the lice in the farmers' crops (Geertsema & Steingröver, 2004).

In essence, the earlier introduced relation between the composition of the green-blue network and the provided benefits (in this case natural pest control) by this network was brought to the attention of the local actors in the Hoeksche Waard during the workshop. The information that the local actors received implied a causal relationship between the implementation and development of the green blue network and the provision of landscape services such as natural pest control and increased biodiversity. Or put in simple terms: when landscape elements would be connected with each other several parties would benefit because of increased biodiversity and decreased use of pesticides. According to Rydin, information can be called knowledge only if a causal relationship is a central characteristic of this information. Therefore, the relationship between the composition of the green-blue network and the provided benefits by this network will be summarized as knowledge about the green blue network in this research.

However, in the article of Rydin, she stresses that knowledge should not be seen as an unchangeable object but should rather be seen from a postmodern perspective in which knowledge is transformed into knowledges. According to Rydin: "*Knowledge is inherently multiple, with multiple claims to representing reality and multiple ways of knowing* (Sandercock in Rydin, 2007, p. 53)*".* Knowledge is no longer the domain of scientists and experts but includes local and experiential knowledge from actors (Rydin, 2007). This is an important notion for this research as new forms of knowledge about the green blue network may emerge among actors as a result of the introduced knowledge by Alterra. The actors' personal experiences and ideas together with the knowledge on the green-blue network can possibly co-produced new knowledge on the green- blue network and give new meaning to this concept.

3.4 Community-based planning

Community-based or collaborative planning theory has emerged to address the societal trend of decentralisation and provides a theoretical framework for the involvement of local actors in landscape planning. Many scientific publications address the benefits of local actor involvement in natural resource or landscape planning. Several of these

benefits are summed up in the article of Selman about the role of community participation in the management and planning of cultural landscapes (Selman, 2004).

"The benefits of participatory management in land care are now well publicised—sharing responsibility, negotiating benefits, incorporating a wide corpus of lay and professional knowledge, enhancing capacity for implementation, increasing trust between stakeholders, reducing the deadweight of enforcement, improving understanding and awareness, facilitating policy integration and increasing public commitment (Selman, 2004, p. 2)

Besides decentralisation of governance, the erection of postmodernism as a worldview has strongly influenced the societal urge for participation and sharing different perspectives in decision-making. Postmodernism advocates the complexity of social problems and the pluralism in truths and perspectives which collides with a government-lead top-down view on planning (Allmendinger, 2001). According to Allmendinger (2009), this complexity provides a basis for an alternative planning approach which is more concerned with facilitating and providing conditions for participatory processes with a bottom-up structure.

As the modern paradigm of absolute truth and harsh objectivity is slowly transforming, problems emerge within deliberation and communication. According to one of the main influences on collaborative planning, Jürgen Habermas, the only rational is the communicative rational which gives the possibility to reach a consensus in a discussion platform of different stakeholders and different perspectives (Forester, 1993). The communicative rational is based on the assertion that arguments are only valid when it is possible to come to agree on. Thereby not only taking into account logic and science but also systems of morality and cultural specific traditions as to broaden our conception of a valid argument (Healey, 1992). This perspective is an important aspect of collaborative theory as it states the complexity of decision-making and emphasises the role of individual values of stakeholders regarding the landscape. In order to improve community-based landscape planning this combination of scientific knowledge and area-specific local knowledge needs to be further embedded within the practice of landscape planning (Raoul Beunen & Opdam, 2011).

However, according to Flyvbjerg (1998) actor-based decision-making is not only done on basis of rationality. It is power instead of rationality which defines reality. This means that decisions made in politics and planning are often not made by rational consideration but by the exertion of power. It is therefore important to understand power relations between actors in a social network in order to understand the context of a certain decision, process or opinion.

For this study it is therefore important for a qualitative researcher to understand that the community-based process in the Hoeksche Waard can be influenced by power relations among actors. Not necessarily knowledge about the green-blue network may have affected the process but the exertion of power by actors, possibly governments, can affect decision-making and collaboration.

3.5 Actor collaboration

Within scientific literature, the process of collaboration gained increased attention in the last decade. Thomson and Perry define collaboration as follows: *"Collaboration is a process in which autonomous actors interact through formal and informal negotiation, jointly creating rules and structures governing their relationships and ways to act or decide on the issues that brought them together; it is a process involving shared norms and mutually beneficial interactions* (Thomson cited in Thomson & Perry, 2006, p. 23)." In order to increase understanding of collaborative action in the community-based process of the Hoeksche Waard, possible factors or variables for effective collaboration should be identified with the help of scientific literature. Many scholars have addressed variables or factors that define effective actor collaboration. As mentioned earlier in this chapter, Ostrom proposes ten important variables for self-organisation of actors but for this case, only six variables will be discussed. Productivity of the resource system, the need for scarcity, resource unit mobility, and predictability of system dynamics will not be discussed as they do not have direct relevance for the proposed study. As a seventh and eight variable, the process of social learning and the presence of a boundary object are added to this inventory of variables.

Size of resource system

According to Ostrom, resource systems should not be too large or too small. In the first case, self-organisation of actors would result in high costs for defining the system's boundaries and monitoring the resources. In the latter case, the resource system would generate insufficient resources for actors to self-organise.

Collective-choice rules

When actors have more autonomy in creating rules for the management of the resource, they will be more easily inclined to self-organise.

Number of users

In the case that a social network would be too large, the costs for self-organising would be too high for getting actors together and reaching consensus in decision-making processes.

Leadership/entrepreneurship

The presence of individuals with leadership qualities or entrepreneurial qualities has a positive influence on the level of self-organisation and collaborative action within a community.

Norms/social capital

When users in a resource system share the same norms and ethical standards, trust and reciprocity will be higher. This results in lower costs for coming to agreements and therefore has a positive effect on self-organisation of actors.

Knowledge of SES/mental models

The presence of local knowledge on the SES benefits the self-organising capacity of local actors. When actors share knowledge on how their actions affect the system, collective action will be more effective.

Importance of resource

The self-organising capacity of a community depends on the value they attach to the resource. If a resource has low value for its users they will not invest in self-organisation. In case that users are dependent on the resource for their livelihood they are more easily inclined to self-organise.

Social learning

An important aspect of participatory processes is the role of social and experimental learning. In an article of Ataöv and Kahraman (2009), the authors tried to explain underlying processes of collaboration by conducting a participatory case study in a community in Turkey. According to the authors, experiential learning is an eminent process for constructing collaborative platforms in communities as they concluded that the collaboration process had several benefits for the participants. The interviewed participants stated that the communication with other members had been improved; they gathered other points of view and co-created new knowledge during the process. It had also led to mutual trust and to improved self-esteem of the participants. Consequently, all these benefits eventually led to shared action and improved collaboration between the community-members. Because of the participatory process of decision-making a collaborative platform had emerged which was maintained even after conclusion of the project initiated by the researchers (Ataöv & Ezgi Haliloğlu Kahraman, 2009). A similar conclusion was reached by Albert et al. (2012) in their study on how social learning benefits decision-making. According to the authors, participatory planning processes enhanced social learning of stakeholders what subsequently meant that participants gained substantial knowledge, procedural knowledge, understanding of different perspectives, and both social and technical skills. Interviewed participants stated that such a process contributed to their awareness of the discussed topics, their future agendas, and the social relations among stakeholders (Albert et al., 2012).

Boundary object

An important issue within collaborative processes is the fact that stakeholders represent different perspectives and interests which can collide and obstruct decision-making processes. Therefore, another factor for efficient collaboration among actors is the presence of a boundary object within the deliberation arena which functions as an instrument to mediate the different perspectives and jargons of actors and provides a platform for mutual understanding (Landry, Levin, Rowe, & Nickelson, 2010). Boundary-work and objects have been introduced by several authors as an approach to overcome contradictive ideas, perspectives and even ideologies (Gieryn, 1983; Leino, 2012; Trompette & Vinck, 2009). A boundary object, according to Gieryn (1983) and others, can be different things but has the ability to converge different perspectives and interests and create a common ground between actors from different social worlds (Carlile, 2002; Leigh Star, 2010).

Besides boundary objects, also boundary organisations and interaction can mediate between science and politics and "*facilitate collaboration between scientists and non-scientists and create combined scientific and social order through boundary objects*" (Carr & Wilkinson in Leino, 2012, p. 386). In the article of Leino (2012), the role of

boundary interaction in participatory processes is analysed in two cases in Finland. She emphasises the difficulty of governing participatory processes because of the plural nature of the public. Leino concluded that participatory planning should shift from a linear procedure, based on routines deployed by planning officials, towards a non-linear and complex form of procedure. Boundary interaction can transgress such linear procedures and routines because it evolves during the process (Leino, 2012).

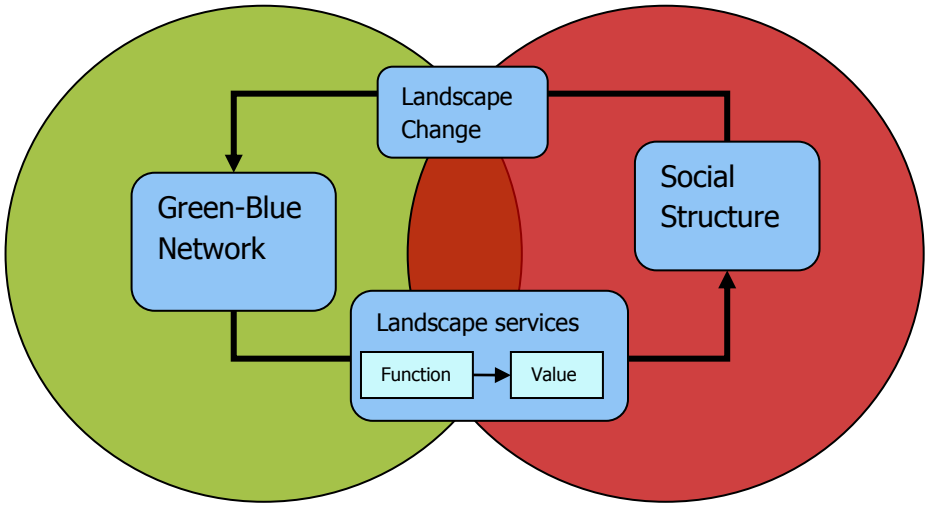

Figure 4. The social-ecological system framework including the relationship between the structure of the landscape (green-blue network) and the social structure.

As a result from the above mentioned theoretical framework comes the idea that the landscape structure and the social structure of actors affect each other (see figure 4). The social structure defines the preferences for changes made in the landscape structure. The landscape structure, in its turn, can possibly influence the social structure as certain functions are related to the configuration of the landscape. Subsequently, these functions are differently valued by social actors, leading to changes within the social structure.

3.6 Research Questions

Now that a theoretical framework has been introduced and several definitions of concepts are given, it becomes easier to sharpen the research question and divide it into sub-questions. As already mentioned in the introduction, the objective of this case study is to increase understanding of the actors' perceptions and knowledges (plural) on the green-blue network and the impact of this green-blue network on effective actor collaboration during the community-based process in the Hoeksche Waard. This objective is transformed into the following research question which will further guide this study.

MRQ: *How do actors perceive the impact of the green blue network, both as a physical object and a conceptual idea, on effective actor collaboration in a community-based process of landscape planning in the Hoeksche Waard?*

This main research question already shows the evaluative nature of the study as it reflects on a process period of 10 years, from 2004 until 2014. To come to a profound answer for this question, it will be broken down into three different components. A first component explores whether and how the knowledge about the green-blue network, as introduced in the workshop of Alterra, affected the perception and the management of the actors concerning the landscape. A second component explores the actors' perspectives on the changes that occurred within the social structure and how this changed structure affected both the horizontal and vertical collaboration among actors. Horizontal collaboration includes all collaborative relationships on a local scale, whereas vertical collaboration consists of collaborative relationships between different (government) scales. Finally, a third component explores which factors are identified by the actors that affected effective actor collaboration during the community-based process in the Hoeksche Waard. These three components can be transformed into three different sub-questions which guide the study.

1. How do actors perceive and apply the acquired knowledge about the green blue network as introduced by Alterra throughout the community-based process in the Hoeksche Waard?

2. How did the structure of the social network change throughout the community-based process according to the actors in the Hoeksche Waard?

3. Which factors contributed to the effective actor collaboration in the Hoeksche Waard according to the actors?

4. Methodology

For a research to come to a founded conclusion a clear methodology is eminent, including the different methods for data collection. Especially for qualitative studies, which can rely on an ever-expanding number of research methods and protocols (Gergen & Gergen, 2000), it is important to elaborate on the different steps in collecting data, analyzing data, and eventually the interpretation of the data (Creswell, 2013). Additionally, an eminent part of the qualitative research design is an adequate description of the personal positionality of the researcher. This chapter explains the reader how the data has been collected, using different types of methods, and how the researcher is positioned in relation to the research topics and the research process in general.

4.1 Research Design

In figure 4, the different stages of the research framework are indicated to provide an overview of the research process as conducted during this study. Stage 1 consists of developing a theoretical framework as is already done in the preceding chapter. Furthermore, the case is introduced and defined which is important to delimit the study for methodological and theoretical purposes. As the case and the studied topics and theory are defined it is possible to dive into the case and start collecting data. Different methods are used in this study, partly to increase the trustworthiness of the process and partly to generate a broader understanding of the case. The interviews, observations and workshop all contributed to the data collection stage. Eventually, the data was transcribed and analyzed but there was a constant (sometimes unconscious) iterative process between data collection and its analysis.

Another important notion regarding the data collection and analysis process is the fact that the workshop was held after the analysis of the interview data and was partly organised on the occasion of the insights resulted from this analysis. After the data collection and analysis stage, the data was reflected on the earlier defined theory and the interpretations were related to this theory and conclusions were drawn. However, during this stage new parts were added in the theoretical framework and others were scratched. For example, literature on landscape services and discourses was diminished or eliminated as it lost its relevance during the interviews. The theoretical interpretation of qualitative results is therefore also an iterative process.

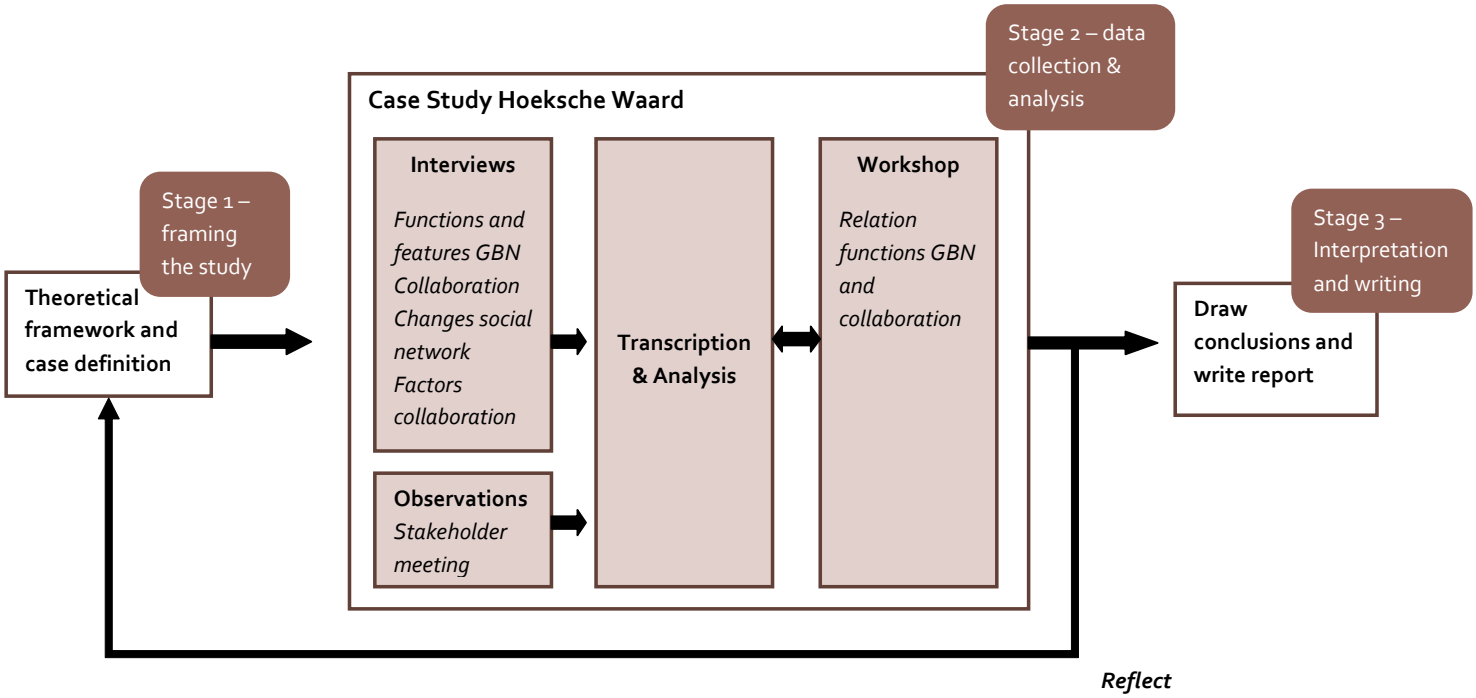

Figure 5. Research framework including methods and different stages.

The case study is one of five research designs for qualitative research as defined by Creswell (2013). This design is commonly used for exploring processes, events or activities within an existing setting in order to induce detailed information from this specific case (Stake, 1995; Yin, 2012, 2014). This research design is specifically useful for evaluative research as it is bounded by space and time.

For this study on the impact of green-blue networks on effective actor collaboration, the case study is a very suitable design because of several reasons. For one, because of the fact that the green-blue network has only been implemented in practice in few places so not much literature exists about the influence of green-blue networks on collaboration and social structures. By studying the practical case of the Hoeksche Waard, new insights on the topic of green-blue networks and actor collaboration can be derived. Another motive for choosing the case study design is the fact that experiences and opinions from stakeholders on the process are a central topic in my study. A phenomenological study, as an alternative, is not sufficient as a design since it only focuses on a phenomenon and does not take process and context into account like a case study does. And third, this study is mainly evaluative of nature since the role of a green-blue network is studied in a community-based project as has occurred in the last decade. A commonly posed critique on case studies is its disability to extrapolate data since it is context-dependent (Flyvbjerg, 2006). Although this is true, it is however possible to increase understanding of possible factors and influences on community-based processes which can be taken into account in future projects and further studied in future research. Or as Yin states: "*case studies reveal the multiplicity of factors [which] have interacted to produce the unique character of the entity that is the subject of study* (1989, p. 82)". In regards to this study, this means that no strict and objective relationships can be found as a result of this study but instead valuable insights on this specific case can be derived which provide new starting points for further research.

4.2 Semi-Structured Interviews

The majority of the data has been collected by conducting semi-structured interviews with purposefully selected individuals. In qualitative research it is common to make a non-randomised selection since the purpose of the interview is to help the researcher understand the problem or situation. The stakeholder selection and the selection criteria will be further elaborated later on in this section.

A semi-structured interview is a commonly used method for qualitative research and case study designs as it collects a broad scope of information which helps the researcher to understand the situation and the context. The individuals are relatively free to talk which improves reliability of data on opinions and values (Saghir, 1971). A disadvantage of this type of interview is the difficulty to find representative answers to deduct general statements. However, for this study a balance is needed between generating broad and thick data on the topic on the one hand and the possibility to derive some general insights on the other. Therefore, the interview consisted of open-ended questions which are posed in a way that avoids complete different interpretation. It is needless to say that the interviewer had an important task in this situation as he was able to reformulate the question in order to generate sincere but relevant answers. A general draft of the interview protocol can be found in the annex (see Appendix I).

The interviews are conducted face to face and one on one as it allows the researcher to control over the line of questioning and improvise if needed in order to derive the maximum amount of information from the interviewee. The interviews have been recorded with a voice recorder application on the researcher's mobile phone.

Initially, the aim for the interview sample size was 27, based on the experience of another MSc student who conducted interviews in the same area. However, throughout the interview phase, it appeared not to be feasible to reach this number of participants. Eventually, 13 interviews have been conducted including at least one representative of each organisation involved in the case. The initial division of stakeholder groups and organisations was based on the articles of Opdam et al. (n.d.) and Steingröver et al. (2010) which addressed the social network in the Hoeksche Waard as well. However, throughout the interview phase I came to a different composition of stakeholder groups and organisations. This had to do with the fact that the initial division was based on a generalisation of actor groups while for my study it was important to avoid generalisation of actor opinions and instead come to a profound understanding of a specific situation. In the following paragraph, the selection of actors is further elaborated.

The questions of the interview protocol directly or indirectly related to the influence of the green-blue network and its functions (or services) on the planning process and on the collective actions, as perceived by the interviewed stakeholder. The main focus of the questions was more or less twofold. On the one hand the focus was on the participant's opinion on the green-blue network and how the knowledge about this concept affected their way of managing and perceiving the landscape. On the other hand the focus was on the mutations within the social structure and the possible influence of the green-blue networks concept on this structure. In order to maintain a broad scope on the situation as a qualitative researcher – an important point to be

aware of – I included questions related to other possible factors that possibly influenced the change in the social structure for the benefit of collaboration in the Hoeksche Waard during the last decades. This way, I was able to observe which factors the actors would identify as important factor for the effective collaboration in the Hoeksche Waard.

4.2.1 Stakeholder Selection

As mentioned in the preceding paragraph, the participants for the interviews have been purposefully selected. This selection is based on the following criteria:

1. Participated in the workshop on GBN, held by Alterra

The workshop held by Alterra in 2004 about the development of a green-blue network introduced this concept for the first time to the organisations in the Hoeksche Waard. Substantial knowledge on this concept and its function for natural pest control was provided during this event and it was the first occasion in which stakeholders jointly identified and draw a network of green and blue elements. In order to make sure that interview participants had heard about basic aspects of the GBN and natural pest control, the involvement with this workshop in 2004 is used as a selection criteria.

2. Involved in the social network since, at least, 2004 and a substantial time after

In order to be sure that the interview participants are able to provide insights in the process on the implementation of the GBN and changes within the social network, the participant needs to be involved in the social network for a substantial time within the timeframe 2004-2014.

3. Prominent within an organisation

As it is not feasible to interview multiple persons within an organisation, participants need to be strong representatives of a party or organisation. This way, the organisation's interests and perspectives are best represented within the analysis. However, this also brings the risk that perceptions of individuals become generalised for the whole organisation, degrading the profound character of the findings. A benefit is the assertion that prominents are likely to be involved in deliberation among parties and have a clear opinion on certain elements of the process. However, not all participants have to be representatives of an organisation as individual landowners such as farmers have also been involved and often have an individual interest which not necessarily coincides with the interest of the farmer organisations.

Beside these three criteria, suggestions by interviewees on possible additional participants have also been taken into account as these persons can be involved in the community-based process later on and still provide profound insights in the process. Additionally, some organisations are represented by two participants which contributes to a broader understanding of the process and an increased validity in statements concerning stakeholder groups. Eventually, these criteria led to the following selection of interview participants.

1. Regional Farmer Organisation (LTO- Hoeksche Waard)

Participant: former chairman, retired in 2013

2. Province of South-Holland

Participant: regional coordinator

3. Nature and Landscape Organisation (HWL)

Participant: former chairman, retired in 2012
Participant: engaged member

4. Partnership Municipalities Hoeksche Waard (SOHW)

Participant: project leader
Participant: project manager

5. Water Board Hollandse Delta (WSHD)

Participant: retired project leader

6. Innovative Agricultural Organisation (H-Wodka)

Participant: chairman
Participant: secretary

7. Agricultural Nature Organisation (De Riegors)

Participant: chairman

8. Green Conservation Organisation (Groenbeheer)
Participant: project manager
9. Ministry of Environment (Min. I&M)
Participant: policy advisor
10. Critical Farmer
Participant: farmer with critical attitude towards GBN project.

Table 1. Overview interview participants and their organisations.

4.2.2 Interview Process

All 13 interviews have been conducted in a period of one month in which I frequently travelled to the area of Hoeksche Waard and city of The Hague. All relevant actors were requested for an interview appointment by e-mail but not all of them responded, possibly because of an outdated e-mail address. No reply was received from the representative of the State Forestry, the former committee for the Hoeksche Waard (CHW), and two individual farmers and unfortunately no interviews have been conducted with them.

All interviews were held in a preferred setting chosen by the participant. The purpose of the interview and the objective of the research were briefly introduced by the researcher. This introduction would be followed by a "warm-up" question which was intended to give the participant the possibility to introduce him/her-self and make him/her feel comfortable. The subsequent questions were more directed towards the situation of the green-blue network and the services it provided, the collaboration among actors, and the changes in the social network in the last decade. Most participants tended to wander off in their stories and focus too much on the historical and factual description of the different events. In these situations I had to correct them and steered them more towards the topic of interest by posing questions which served as segways. However, it was sometimes difficult to find the balance between letting the participant talk freely about their experiences with the case and interrupting them in order to steer them to a topic that appeared more relevant for the study. Near the end of the interview I would recapitulate in my head weather we addressed most of the topics of interest and if not I would come back to this topic. At the end, the participants had the opportunity to comment on the interview and make sure that their intended statements had been said. I would also mention the intention to send them a summary of the interview for them to verify the accuracy of their transcribed statements. Some of them did not feel the necessity to verify this and so later on, not all send summaries were confirmed and approved.

4.3 Observations

A second method for data collection used in this study is the researcher's observations. Besides the observations done during the interviews and conversations with the actors I also attended a stakeholder meeting. This event gave more insights in the relationships among actors and the use of the green-blue network and related services within their deliberation.

The observed meeting was a deliberation between parties of the "societal midfield", a platform of organisations that frequently meet to talk about issues related to various themes. The theme of this meeting was landscape and society and the agenda included an item on the future financial situation of the field margins. In this item, two representatives, one from the partnership organisation of the municipalities and the other from the agricultural nature organisation, presented the current state of the implementation of field margins within the new Common Agricultural Policy. Me as the researcher and observer sat in the back of the room and noted relevant statements and remarks of the different attendants concerning their opinions and ideas on the field margins. The complete meeting has been recorded with a voice recorder but only the relevant parts, which related to the topic of field margins, have been transcribed.

4.4 Workshop

Throughout the study, the idea emerged to organise a workshop with all the interview participants. The purpose of the workshop was two folded. Firstly, it provided a chance to further elaborate on certain topics which appeared to be eminent within the studied process. Secondly, it was a good opportunity to check certain insights which were brought to the front during the interviews and which could be discussed and reflected upon by the participants during the workshop.

All 13 interviewees were invited for the workshop but only 7 of them were able to join which still provided a good and broad scope of stakeholder perspectives to have a discussion. The following parties were represented: Farmer Organisation (1), Nature and Landscape Organisation (2), Agricultural Nature Organisation (1), Green Conservation Organisation (1), Water Board (1) and Partnership Municipalities Hoeksche Waard (1). The workshop was held at the municipality office of one of the local municipalities in which also SOHW (the partnership of the municipalities) had its seat. The event took 2 hours and was recorded with a voice recorder. In order to safeguard a certain level of objectivity in the discussions, a second researcher (who was not involved in the study) was present at the workshop to observe the course of the workshop and the influence of the first researcher on the discussion.

The workshop opened with a brief presentation of my research findings until then, which were mainly based on the analysis of the interviews. After the presentation, a discussion was held on the basis of 7 different statements. The main topics of these statements related to the role and function of the green-blue network and the field margins, and the influence of this landscape system on the collaboration among parties in relation to the management and further development of this green-blue network. For example, the following statement was included:

The parties in the Hoeksche Waard are not dependent of each other for the generation and utilisation of the different functions of the green-blue network (natural pest control, biodiversity, buffer-function etc.).

In order to make the discussion a bit more interactive, a flip-over with colour stickers was used to place the participants' opinions on a gradient which represented their level of agreement and disagreement. At the end of the workshop, the discussion was briefly recapitulated and reflected upon together with the participants. This way, it was attempted to improve the transparency and validity of the workshop.

The gathered data from the workshop was valuable as it confirmed certain existing insights and provided new insights as well. The participants appeared to have enjoyed the event as well and even called it a sort of reunion with many of the actors that were involved over the past 10 years. The data of the workshop has been transcribed and analyzed and is included in the result section further on in this report. The program of the workshop and the discussion statements can be found in the annex (see appendix II)

4.5 Data Analysis

After all interview data had been collected and transcribed, the analysis of the data started. The analysis phase consisted of three sub steps: (1) reading and coding the data, (2) categorizing the data by themes, and (3) interpreting the data within and between these themes.

Reading and coding only took place after the interviews had been conducted and fully transcribed. For doing the coding phase, I decided to work in Microsoft Word and add comments to relevant statements of actors. Initially, I intended to make use of the program Nvivo but as this turned out to be a rather large and paid program I dropped this idea. Eventually, 260 pages of transcripts have been coded and later on in the process again 20 pages from the workshop transcript. When reading the transcripts I did not yet focus on certain points but highlighted almost everything that appeared to have a relation with the green-blue network or the collaborative process. This way, data kept relatively broad which had both positive and negative implications. Positive is the fact that a broad scope of data analysis contributes to a broad understanding of the context which results in a thick and rich description. Negative is the fact that it makes interpretation more difficult as relationships between data are hard to identify, possibly resulting in less specific results.

In the second phase, the coded data was categorised according to several themes. Before the first analysis phase, I already created a list of themes of which I thought to be relevant and which related to the research questions. Throughout the analysis, as new insights developed, I revised or renamed these themes in order to provide a more accurate categorisation for the findings. The final list of themes and their description can be found in the appendix (see appendix III). When placing the data under a theme I did not just copy paste the coded descriptions but read the text in the transcript again in order to include as much context as possible in the descriptions underneath the themes. This way, I tried to avoid taking statements out of context. Eventually, this

phase resulted in a combined document of 15 pages consisting of actor statements divided over 12 themes.

The third phase consisted of interpreting the data. *De facto*, this already had been done a couple of times throughout the data collection and analysis phase when transcribing and categorizing the data, which is unavoidable. However, in the last phase the statements and descriptions under each theme were linked to each other, resulting in a text which described all relevant insights concerning the particular themes. Additionally, the separate themes were compared as well, in order to identify clear relationships or contrasts. This way, some clustered findings could be derived from this research, providing answers on the sub questions. These results are later in this report (chapter 6) elaborately described.

4.6 Validity and reliability

Since qualitative research incorporates interpretation and subjectivity of language, specific attention should be given to safeguard validity throughout the research process (Gergen & Gergen, 2000). Validity means that the findings in a research are checked on their accuracy by the researcher and that the rigor in the research process is ensured by certain procedures. Within qualitative research, validity is often substituted by a different term: trustworthiness. This term was proposed by Guba and Lincoln and guided by new criteria which evaluated the significance, relevance, impact and utility of qualitative research (Morse & Barrett, 2008). The discussion about validity versus trustworthiness is still continuing in the qualitative field and a case can be made for both stances. However, for this study I decided to use the term validity as trustworthiness is strongly based on reflexivity. Research validity should however not only be reflected upon on hindsight but also be incorporated and addressed throughout the research process (Morse & Barrett, 2008). In order to safeguard the validity of this study, I applied the following techniques, partly derived from Creswell (2013).

Member-checking

This technique verifies the accuracy of the interview data and the interpretations I made. After the analysis of the interviews I send a copy of the data, categorised by theme, back to the participants with a request for them to check the accuracy of the interpreted data. Although not all participants have responded, the ones who did were quite satisfied with my interpretations. Moreover, the workshop also served as a member check since most of my interpretations were presented to the actors. Unfortunately, not all actors were present during the workshop so it did not cover the validity and reliability of all data.

Rich and thick description

When writing the results chapter, I tried to give a rich and thick description of several insights regarding the actor's perspectives on the situation in the Hoeksche Waard. This technique sometimes leads to the consideration whether some findings are relevant or not to include in the report. During the analysis, I had placed these doubtful cases underneath the category "other" but in the end I was able to incorporate the majority of these findings into the report.

Bias or position of the researcher

In the following chapter, a detailed description of my background and position as a researcher is included. Such a description contributes to the validity as it clarifies inevitable bias in the interpretation of the findings and choices made during the process.

Spending prolonged time in the field

Another strategy, proposed by Creswell (2013), is to spend prolonged time in the field in order to better understand the situation and the context in which actors' opinions are made. Throughout the data collection phase, I visited the case area 10 times for conducting interviews, attending a meeting and organizing the workshop. The time in-between interviews I would often go into the fields in order to experience the surroundings, the green-blue network and have a better understanding of topological context of certain names and events. Furthermore, I talked a couple of times with people off record, for example when walking me out, about relationships with other actors, about personal matters or about the landscape. All these observations and conversations contributed to my understanding of the setting and context of the actors' opinions.

Peer reviewing

During this thesis period, I often reflected upon my research process together with my supervisors but also with a group of other students. Together, we discussed several topics and problems that we would encounter and critically reflected upon the validity of our methods. Furthermore, when organizing the workshop, another student accompanied me in setting up the workshop and defining the discussion statements. This way, some of my findings have been critically reviewed by an academic peer, improving the validity of the findings resulting from the workshop.

Triangulation

Initially, I intended to incorporate several sources in my data collection phase. However, due to lack of time I skipped the literature review in which I intended to scan several policy documents and reports related to organisations in the Hoeksche Waard in order to analyse the application of the green-blue network concept within deliberation and policy-making. Eventually, I decided to stick to two data sources: the interviews (and workshop) and my observations.

Besides the above mentioned techniques another issue had also to be taken into account throughout the data collection process. This issue relates to the assertion that the researcher's perspective or discourse is influenced when analyzing the participant's discourse and vice versa, resulting in a vicious circle as depicted in figure 5. In order to partly intercept this issue, iterative steps between analysis and transcription should be embedded in the analysis phase. Such an iterative process increases validity of the interpretations as they stimulate critical reflection on the previous interpretations. However, for sake of feasibility, such iterative steps cannot be repeated infinitely, therefore, it is the researcher's responsibility to judge whether the results of the analysis are reliable enough.

In the research process, I did not extensively reflect on my own interpretations and only iterated the analysis steps once. However, I did reflect on my own discourse quite rigorously as there were some moments in the interview process that I realised the impact of my own discourse. In the following chapter, these moments are further elaborated.

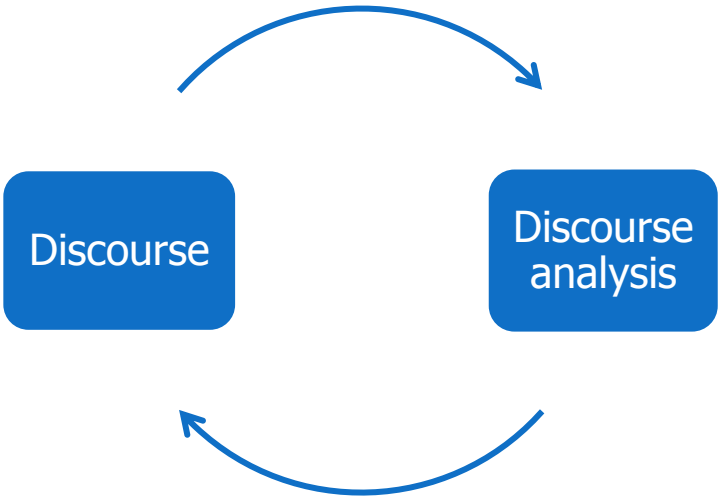

Figure 6. Vicious circle representing the relation between discourse analysis and (development of a) discourse.

Besides validity, the above mentioned methods also ensured the reliability of the data gathered in this study. Reliability differs from validity as it safeguards the consistency of the researcher's approach within his/her own research and in relation to other comparable researches (Creswell, 2013). By providing a detailed account of the researcher's role within the research process and conducting member checks reliability of data was improved in this study. Furthermore, the different steps and procedures within the data collection and analysis process have been documented in a logbook as proposed by Yin (2014).

5. Positioning of the researcher

Inherent to qualitative studies (and often quantitative studies) is the idea that the researcher's worldview influences the content of the research. Be it conscious or unconscious, throughout the research choices are made which are politically, institutionally or socially motivated by the researcher (Sultana, 2007). According to Locke et al. (2013) the contribution of the researcher can be useful instead of detrimental and it can explain certain choices that could be made later on in the study. This means that the researcher's perspective in any case influences his/her scientific work and a description of his/her perspective will only marginalize the researcher's influence as the reader understands the origin of certain choices made by the researcher. This way, the quality and validity of the research is strongly improved. Peak and Trotz stress that acknowledging subjectivity and positionality in research strengthens "*our commitment to conduct good research based on building relations of mutual respect and recognition* (2002, p. 37)". In order to improve the validity of my own research I will briefly elaborate on my own values in this section. Later on in this report I added a paragraph in which I reflect upon my influence as a researcher on the research process.

My personal experience with the topic of green-blue networks had been limited, partly due to the fact that it has only emerged some years ago as a concept. I am however, as a planning student and as a fancier of landscapes somewhat biased in wishing to develop sustainable and attractive landscapes. This leads also to the motivation of finding an accurate solution in combining different interests of stakeholders and transforming them in a landscape policy. Furthermore, I perceive myself as a postmodern scientist as I accept and believe in a plurality of truths and the absence of absolute objectivity. This postmodern perspective explains my personal preference for a community-based approach in planning.

Another noteworthy factor is the notion that I grew up in a small village and my father is a member of the local agricultural nature organisation which represents the interests of several stakeholders. Because of this, and because of my uncle who is a farmer, I have always been aware of the complexity in developing a sustainable land use policy to which each stakeholder can relate to. Because of my background I can relate to different perspectives on the value of landscapes which in my opinion contributed to a more neutral stance during the interviews and it helped me gaining trust of participants which possibly improved the honesty and the deepening of the interview. However, it could also have influenced my interpretation of the provided interview data. In the interpretation phase I will reflect on such notions in order to evaluate the validity of my results.

The fact that I grew up in a small village in a rural landscape has also affected my preference for small scaled cultural landscapes and created a certain romantic and nostalgic perception of how landscapes should look like. This preference could possible trigger a certain desire to contribute to a solution which would stimulate the development of small scaled landscape elements in order to counter intensification of

the landscape use. Throughout the study I was very aware of this issue and tried to address both positive and negative aspects of the green-blue network and the field margins in the area. During the interviews, I also stimulated participants to elaborate on the disadvantages of the concept as well. In the workshop I even provoked the participants by putting up a statement that denied the importance of the green-blue network in the collaborative action of actors.

This research is commissioned and supervised by two institutes: Alterra Wageningen and Wageningen University (WUR). The former is a research institute affiliated with Wageningen University, conducting research to improve the green living environment. The topic of this study has been agreed upon between me and Alterra. This research contributes to an existing non-published manuscript on landscape services developed by Alterra and should eventually lead to an article. Therefore, my research partly incorporates the interests of this research institute which could have possibly influenced the process. The WUR, as my other commissioner, is mainly interested in me improving and applying my academic skills by writing the masterpiece of my academic education. Both parties have an academic angle and have interests in the academic level of my research but Alterra is more closely involved with the topic of my research and the usefulness of the outcomes. Although the existence of these interests, no hard contracts were signed which gave me the freedom to conduct my own research and provide my own results. I enjoyed the fact that I was supervised by two academic institutes as I believe this improved the academic level of my thesis. The academic angle and expertise of both institutes and supervisors are somewhat divergent which forced me to incorporate different views and knowledge, reflect upon these ideas, and eventually made me follow my own line of thought, addressing parts of both views.

6. Results

This chapter describes the most important results, derived from the different methods. The three sections in this chapter are based on the sub research questions and explain the most relevant findings relating to the specific question. Subsequently, these findings are bundled under a sub-section in order to improve readability and are supported with quotes from actors which are written in *italic*. The quotes have been translated from Dutch to English which inevitably may have changed the purport of a quote. However, the original quotes can be found both in Dutch and in English in the annex (see appendix IV).

6.1 The actors' perceptions and knowledge(s) about the green-blue network.

The knowledge about the green-blue network and its provided functions appeared to be quite accurately comprehended by the actors in the Hoeksche Waard. Most of the participants are able to recall the main message of the workshop of Alterra about the green-blue network and its role in creating a coherent system consisting of core areas and spout areas to embed the function of natural pest control. Many notice the interaction between the local and area specific knowledge of the participants and the scientific knowledge of the scientists. However, there is quite a contradiction between the participants' perspectives on what the role of the workshops had been throughout the process. Some say that it contributed to the creation of a shared vision on the mapping of the physical landscape in the area. Others state that it had only a marginal influence on the process, that is was only an evaluation on what already had been done and some even had a negative association with the workshops saying that a lot of people were talking about the possibilities of the farmers' lands without having any property rights on these lands. Interesting is that one participant confirmed that the concept of green-blue network was introduced by Alterra in the workshop and that many participants whom marginalised the influence of the workshops did however stress the importance of the green-blue network in the field margin project and the landscape developments in the Hoeksche Waard. These participants therefore appear to contradict themselves as they underline the importance of the main topic discussed and introduced in the workshop.

Although the workshop in itself was not fully recognised as a significant stage within the implementation project of the green-blue network and the related field margins, the knowledge about the green-blue network and its functions, was however recognised by most of the participants. Many stressed the importance of the interrelatedness of the many landscape elements in order to function as a network to improve biodiversity and to contribute to natural pest control. A representative of HWL described the relation between the green-blue network and acquired benefits in his plea for more government investments in the green-blue network as follows: *"If you just map the complete structure of dikes and creeks and verges (...) is that structure then almost sufficient covering to provide all of the Hoeksche Waard with natural pest control? The answer was almost yes, (...) and certainly when this structure exists and no other functions are related, or at least no other functions which hinder it, it's just*

there, (...) then I think it is strange that as a government you won't invest in your own green"

A second participant stressed the importance that the types of field margins or its compositions should be carefully tuned to each other in order to avoid disadvantageous effects. A third participant even gave a full description of the concept of landscape services without being aware of the term. He mentioned that: "*The composition of a field margin should be such that it provides as many benefits and fits as many functions and interests as possible."*

Two other participants described the green-blue network as the necessary fundament for landscape functions and services. One participant however, denied the importance of this interrelatedness with the argument that in principal each farmer had to be able to contribute to the project so not only the ones who had lands located adjacent to existing parts of the green-blue network. However, later during the interview the participant answered that: *"the green-blue network should be maintained as it functions as the building stone of the landscape structure of the Hoeksche Waard."* Hence not everybody was convinced of the need for the connections between field margins but they did emphasise the importance of the connection between the other landscape elements.

6.1.1 Actors' application of knowledge about the green-blue network

It appeared that the green-blue network provided many services and benefits be it directly or indirectly, but in the end was not equally prioritised by all parties. When being asked about the benefits for them as an individual or an organisation, the participants mentioned multiple benefits and functions. Although the numbers of functions varied among the different interviews, the following functions and their related benefits were mentioned:

- Buffer function of the field margins which contributes to the decrease of leaching of pesticides and the increase of the water quality.
- Political function of the field margins as a means to improve the political position of the region for receiving the title of National Landscape (this is however not an inherent function).
- Natural pest control function (FAB) of the field margins as it serves as a biotope for predators which control the population of lice and therefore indirectly decrease the need for pesticides.
- Water retention function as it retains amounts of rainwater in periods of high precipitation.
- Habitat function of the field margins which contributes to the increase of the biodiversity of the area, more specific to certain types of birds and bees.
- Aesthetic function of the field margins which contributes to recreational values of the landscape and the appreciation by many people and organisations.

Another direct benefit for farmers is the fact that they are more easily able to reach the back of their land with machines by driving over the margins. A more indirect benefit which however is quite important for most of the interviewed farmers is the

idea that the field margins contribute to an increased societal acceptance and support as they concur with current societal demands. A representative of HWodka stated during the interview: *"But indirectly the benefits are much higher, because it's about acceptance within the society, it's about your image, it's about biodiversity in general and the role that you can play within this because you are the manager of this large area. That you take on this responsibility, so those are the indirect benefits and I think they are actually quite important. This responsibility that we have, I feel it quite strongly and I am willing to continue carrying out this responsibility but we must do it with each other."* This quote shows the perception of indirect benefits by farmers. A representative of HWodka mentioned that the agricultural sector has the task to become more sustainable and the project regarding natural pest control was an innovative method to effectuate this task.

Although the green-blue network and more specific the field margins have multiple functions and provide many benefits recognised by the participants, there are also several critical points mentioned by the participants. Most important is the fact that the field margins are not economically self-sufficient but depend on public money support. Since farmers are the main stewards of these elements, the sowing of field margins goes at the cost of their crop yield and therefore their main source of income. The money saved by the natural pest control function of the margins for not having to use high amounts of pesticides does not compensate the loss of crop yield (it does however for brown beans at the moment). Another critical point which was mentioned is the disadvantage that the margins create for the maintenance of the adjacent ditches. It becomes more difficult for the Water Board to dredge the ditches and it costs more money as the dredging has to be transported to another piece of land. When this topic was later discussed during the workshop, the participants agreed that this was a result of bad designing and planning of the field margins and that too little budget had been spend on maintenance of these margins instead of the configuration in the first stage of the process.

6.1.2. Shifting awareness

In the case of the Hoeksche Waard, it appeared that the perspective on the landscape of several actors changed throughout the process of developing the green-blue network functions and services. Both farmers and nature conservationists confirm that the introduction of the field margins created awareness that biodiversity could be beneficial for agricultural practice and that farmers are a valuable ally in nature development. One participant from the landscape and nature organisation claimed that: *"It used to be that we as HWL, stood relatively alone in our endeavour for biodiversity and we gained a partner because nature turned out not only to be important for nature alone, no it had also its importance for agricultural business, natural pest control, reduced pesticides, improved water quality.. So much broader than we initially realised."* Apparently, the awareness increased among actors that biodiversity could also be beneficial for agricultural practices or for water management. According to this participant, this awareness led to a better partnership between his nature organisation and other parties.

A farmer stated that: *"The effect of the insects (natural enemies) is stronger if you add your surroundings (...) so how do you as a farmer with field margins manage that you get your surroundings (landscape elements) to contribute to that strength, and more people became enthusiastic about this.* This comment shows the farmer's awareness that the field margins could only be used for natural pest control when they would be connected to surrounding landscape elements, altogether forming a landscape network. In order to achieve this, he also needed to convince and motivate other actors to join and expand to the green blue network.

However, not all of the participants stress that this awareness stems from the introduction of the field margins and the knowledge about the green-blue network and its services but that this change in perspective has already started before the project and consists of a slow process. When asked about his nephew's (a young famer) stance towards field margins, a participants said: *"(...) but well, he experiences for himself that this number of insects provide a better pollination of the brown beans so (...) a better yield. (...) So these multilayer field margins are much more positive (...). So these still are developments, but that the field of the farmer is slowly shifting – would it then perhaps be positive – yes, that is a very slow and lingering process (...).*

Besides a sort of paradigm shift in the functionality of biodiversity, the development of the green-blue network and especially the field margins also increased the appreciation for the landscape and the scenery and made people realise that their surroundings are more attractive than they initially thought. According to two participants, the farmers who implemented the field margins gradually started to appreciate the scenery of these flowery margins. They mention: *"This didn't happen over a year, but you see, people who were shouting in 2004/2005 I don't want this rubbish on my land are now pleasantly joining and starting to appreciate it (the flower margins)."*

To recapitulate, the participants realise the importance of the interrelatedness of landscape elements in order to provide a foundation for the provision of certain functions and related benefits. Over the years, the awareness appeared to have arisen that biodiversity can be beneficial for agricultural practice and that nature and agricultural parties can have a joined interest in increasing biodiversity together. Moreover, throughout the implementation of the field margins, people started to appreciate these flowery margins and the landscape scenery in general, including the farmers. Whether this process of awareness and appreciation has convinced farmers to expand their number of field margins is doubtful since several other motives (simple appreciation, reduced environmental impact, societal responsibility) are brought forward by participants as well.

6.1.3 Continuity of the green-blue network in the Hoeksche Waard

Despite this financial uncertainty, the vast majority of the participants individually claim to continue supporting and carrying out the application of field margins in the Hoeksche Waard.

Currently, a pilot project is ongoing in the Hoeksche Waard which is called "Veldleeuwerik". The project consists of five farmers who grow their products in a fully

sustainable and societal responsible way, financially supported by multinationals such as Heineken, Coca-Cola and Unilever which all aim to become more socially involved. The goal of this pilot is to eventually become a model area for sustainable agriculture in Europe. According to a representative of HWodka, farmers will have to react to certain future trends such as sustainability, corporate social responsibility, and biodiversity. Another representative of HWodka adds mechanisation and intensification to this list of future trends.

The success of the field margin project is explained differently by the representatives of the province and ministry of VROM. The first states that the project was eventually unsuccessful because the plan making phase was followed too quickly by the implementation, the latter states that the project was very successful since the field margins have been implemented in other parts of the Netherlands and it triggered new developments. Eventually, the field margins and its natural pest control function is unrolled in other areas of the Netherlands such as Groningen and Flevoland and the ministry of VROM has created an International Learning Network in which knowledge on ecosystem services should be gathered. Another initiative launched by the ministry of VROM is the DANK project in which a national digital Atlas for ecosystem services is being developed. This should contribute to efficient policy making in the Netherlands regarding ecosystem services and landscape development. According to the representative of the ministry, the benefits of the project greatly out measure its costs.

Three participants state that it will be important for the future development of the field margins to obtain a more sustainable from of financing than the current government subsidies. A proposition of one of the participants is to pay farmers according to their performance. Another participant proposed the idea of raising the price of the farmer's products which would then compensate for the field margins. The representatives of HWL proposed the idea of composting and gassing the biomass coming from the field margins. According to them this would however only be economically feasible if a gasification factory would settle close to the area.

One participant mentions the important observation that the field margin project is mainly carried out by older persons, partly because young farmers do not have the time and money to invest in initiatives that do not directly relate to their business, and partly because only a limited number of young people are involved in nature organisations. Such a development can threaten the process regarding field margins and the green-blue network. According to the representative of the Water Board, his organisation will probably further diminish their nature management activities and focus on their core tasks. The representative of the ministry stresses the future importance for provinces to seriously take on the role of facilitator of ecosystem service development projects. Ecosystem services are able to combine several values and therefore contribute to spend money more efficiently, which will be important for the landscape development in the Netherlands in the future.

6.2 Perceived changes in the social structure of the Hoeksche Waard.

This section shows the results from the interviews and workshop regarding the actors' perceptions of the community-based process and the changes that occurred in the

social structure throughout this process. In order to provide better understanding of the social structure and the underlying processes, this section is divided into two sub-sections: social structure and collaborative processes.

6.2.1 Social structure

In the workshop, a discussion statement was brought forward in the form of a picture of the changes within the social network as proposed by other researchers. The participants responded to this proposed structure and objected to certain relations between parties as represented in the proposed social structure. The workshop discussion resulted in the following representation of the current social structure (see figure 6).

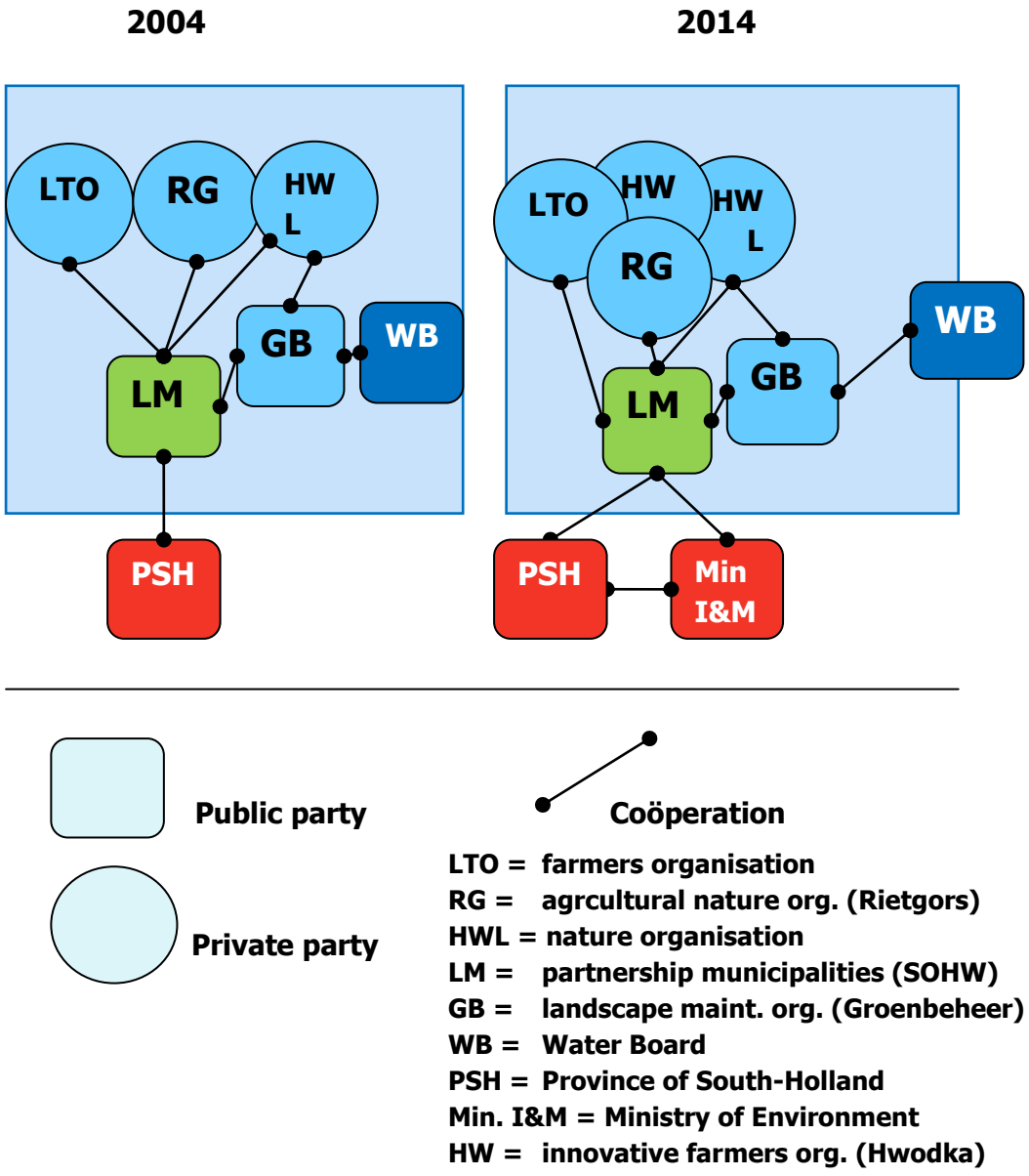

Figure 7. Changes in the social structure of the Hoeksche Waard since the introduction of the green-blue network.

The main changes mentioned by the participants and depicted by the figure above are the following: (1) the links between the private parties (light blue) have become shorter; (2) the organisation of HWodka has been added to the social network and has close connections with the other organisations; (3) the Water Board has been distanced from the private parties; (4) the partnership of the local municipalities (SOHW) has obtained a more central role within the social network; and (5) the ministry of Environment (I&M) has become more directly involved with the social network of the Hoeksche Waard.

On the question whether the social network had expanded throughout the process, most participants were not outspoken affirmative. Not many new parties had been adopted within the social network except for HWodka and SOHW. According to five participants, the establishment of a new party during the field margins project, being HWodka, had (possibly) a relation to this project. However, when this issue was later discussed in the workshop, most representatives agreed that the establishment of HWodka was mainly a result of the drive for innovation and efficiency from several farmers. The farmers took up the initiative because, according to them, there is a lack of innovation within the agricultural sector, including its organisations and its ministry. According to a representative of HWodka the situation was as follows: *"(...) we were efficiently planning these plots (...) and so what do you do with the remainders? (...) And in Brabant were already some field margins and Rietgors was also thinking about it but from a different angle and then the match is easily made and you decide to give it (the remainders) a different destination."*

So HWodka joined in with the project on field margins and the development of the green-blue network for reasons of efficiency and the organisation did not sprout as a result of the existing social structure and the collaborative activities.

The establishment of another party, being SOHW, had no direct relation with the project but was mainly a result of the pressure from the province to reclassify and upscale the small municipalities in the Hoeksche Waard. According to two participants, no new parties had been involved throughout the process other than HWodka and SOHW. However, another participant claimed that two new parties were involved, being the scientific organisations PPO and Alterra Wageningen. Whether these parties can be called a part of the social network is however doubtful as they were only incidental involved. One representative of SOHW also mentions the involvement of new entrepreneurs in the social network of the Hoeksche Waard who find opportunities in the field of recreation and tourism as a result of the field margins and green-blue network. However, when this issue was discussed in the workshop with all participants they agreed that such entrepreneurial parties were incidentally involved but were not structurally involved in the social network.

The ministry of Evironment (I&M) appeared to be closer involved in the social network of the area. According to one of the participants: *"(...) around 2011 there was certainly more focus from the ministry of Environment on the Hoeksche Waard as being the example for biodiversity development within agriculture, and still is. Biodiversity has strict dossier divisions but despite that, the ministry of Environment is still scuffing*

against all of our initiatives, supporting us wherever they can with monitoring budget for environmental aspects (...).″ The representative of the ministry of Environment states about this involvement: *"Yes it helps enormously when a ministry stays involved, not only financially but also by showing your interest in the further development of the process (...) and thinking with them without being the one that has to solve it.″* So apparently some actors perceive the structural involvement of the ministry of Environmental affairs as a change in the social structure which has occurred in the last decade.

6.2.2 Collaborative process

In the following sections the perceived changes in the social structure will be further elaborated on the basis of a framework for collaboration processes as proposed in a review on collaboration processes by Thomson and Perry (2006 adapted from Wood and Gray 1991). This framework consists of five dimensions which are briefly explained in the theoretical framework. This division in collaboration processes is arbitrary. It is mainly applied in order to structure the results and already place them in a theoretical context which makes it easier to reflect on the results in the discussion.

6.2.2.1 The governance dimension

According to several participants, collaboration among parties in the Hoeksche Waard has always existed. One participant stated that it is traditionally common in the Hoeksche Waard to combine as many objectives as possible and to work together from a bottom-up approach. A second participant mentions the region's history of having strong organisations and a good organisational capacity. Another participant stresses the people's awareness of the need for collaboration as the best solution for long term developments. Collaboration between the Water Board, HWL, LTO and Rietgors already existed during the Vlietproject and Argusvlinder in which creeks and banks were restored and developed. And later on, when the project of functional agricultural biodiversity (FAB) started, one of the starting points of the initiators was to cooperate since to them involvement of other parties was essential. This shows that actor collaboration already occurred in the Hoeksche Waard and that parties already had a certain level of governance structure.

Furthermore, the governance of parties was partly incorporated in the organisational structure of the Rietgors. The Rietgors is a foundation and its board consists of representatives of several parties such as HWL, LTO, WBE, the local municipalities and the organisation for 'provincial women'. Together they form a platform in which decisions concerning landscape development are made. Besides, the Rietgors, another decision-making platform exists, called the societal midfield. This platform has a broader involvement of parties and organisations since parties from different sectors than the landscape sector are member of the societal midfield.

Although not many findings done on the processes of governance within the Hoeksche Waard, these results show that a governance structure had already been present in the area before the start of the project on the green-blue network.

6.2.2.2 The administration dimension

This dimension discusses the processes that contributed to the administrative structure within the Hoeksche Waard in which governance was transformed to action and parties were brought together in order to develop the green-blue network. The administration dimension differs from the governance dimension as it focuses on implementation instead of decision-making.

Although the area has a history of collaboration, still new collaborative activities occurred throughout the implementation process of field margins in order to expand the green-blue network in the area. This started with the foundation of a project group, under command of Rietgors, to explore the possibilities and necessities for the implementation of field margins. The ministry of VROM provided 200.000 euro's, with co-finance, for the region to spend on biodiversity projects. According to representatives of SOHW and the province, money regarding the biodiversity project was processed very efficiently in the Hoeksche Waard, mainly because of the strong organisation among the parties.

During the field margins project, the collaboration between the Rietgors and the Water Board had always been pleasant and harmonious according to the representative of the Rietgors. The first took on the coordination of the implementation of the field margins whereas the latter did the administration and had final responsibility. The representative of the Rietgors mentioned during the interview: *"Yes but we worked together with the Water Board very well from the start. (...) because the full administration resided with the Water Board and we did the executive work so our contact was just terrific."*

Throughout the community-based process, Rietgors appeared to have adopted the role of boundary spanner, bringing together different parties around the topic of the green-blue network. This related to the observation that Rietgors as an organisation has increased its influence and respect in regard to agricultural nature conservation on a national scale. An example of this increased influence is the fact that Rietgors was invited by the ministry of Economic Affairs to discuss the policy content of the CAP. According to the chairman of the Rietgors, this influence is a result of their network and lobbying power. On the question whether she could define the reason for the fact that Rietgors was invited by the ministry of Economic Affairs to talk about the field margins, she answered: *"Yes, you see, you build a network throughout the years (...) it is nothing more than networking. (...) We are better known outside the Hoeksche Waard than inside the Hoeksche Waard."*

As a result of the competitive lobby between Rietgors and the national body of the LTO the relationship between the Rietgors and the national body of the LTO has worsened. The relationship between Rietgors and the local body of LTO has however improved. According to a representative of Rietgors: *"We were disappointed in the LTO because they lobbied in favour of the interception crops, so on national level the relationships with LTO are not that good but that does not have any consequences for the local level, we are together fooling about it."*

Besides Rietgors another organisation, being SOHW, appeared to have operated as a boundary spanner or bridging organisation as well. However, the role of SOHW as a bridging organisation was not similarly perceived and acknowledged by all participants. One participant advocated that SOHW as a government layer was superfluous and that the 5 municipalities in the Hoeksche Waard should be merged instead. However, others observed SOHW as an important link between the different parties and an important connection between the region and national and provincial governments. According to a representative of SOHW these governments *"(...) are frequently putting up enormous tasks with us as a region."* And she explained that: *"biodiversity has been a central task of the SOHW, the societal parties do not have to interfere with 5 different municipalities for that but only with one: SOHW. The province as well, they only need to engage with one party, we are a sort of link between the region and it works well. (...) Because the system is there, and it is accepted since it works fine towards the societal parties, it works fine towards the municipalities because they are delighted that they don't have to handle those things, especially in the current times of deregulating tasks."*
According to another party, a representative of HWodka, the collaboration between SOHW and his organisation also improved since the establishments of both organisations. A third participant, related to HWL, also mentioned the role of SOHW in the deregulation process: *"And SOHW (...) appeared and gradually this collaboration improved because later the province withdrew and started to focus on developing bicycle roads."*
The vertical collaboration between the three government layers, national, provincial and local, appeared to be quite efficient in ways of policy making and financing the field margin project. According to one representative of SOHW, this is partly because landscape is an easy policy file, when it however comes to spatial planning, there is much more friction between the province and the municipalities. Even within the national government there was some discrepancy in the plans for the Hoeksche Waard, the environmental department was working on the biodiversity in the region whereas the planners were thinking about developing a business area in the Hoeksche Waard.

In the current (2015) phase of the field margin project, the same important parties are working together to continue the project. SOHW and Rietgors have been assigned by the municipalities to develop a plan for the financial situation of the field margins for the future, especially its position in the Common Agricultural Policy (CAP). According to a representative of HWodka, his organisation, together with the Rietgors, is establishing a collective of parties in the Hoeksche Waard which should contribute to future organisation and survival of the field margins.

6.2.2.3 The autonomy dimension

This dimension addresses the process that revrevololves around the reconciling of individual interests of organisations and the collective interests of a partnership. Involved organisations have to maintain accountability for both the interests of their organisation and those of the collaboration which forms a key dimension of actor collaboration.

Although the composition of the project group for the implementation of the green-blue network varied at times, the main parties such as LTO, HWL, Water Board, Province, SOHW and HWodka were continuously involved. Parties such as Landschapsbeheer Zuid-Holland and Wild Beheers Eenheid (WBE) left the project group and so did one member of Delta Natuurbeheer. The role of the Water Board changed throughout the process, returning to a more facilitating role by financially supporting the project. According to the representative of the Rietgors, the WBE left the collaboration because their interests vanished when the margins were no longer composed for creating shelter for game.

Three participants claim that the common interest, resulted from the field margin project, had a positive impact on the relationship between the farmers and HWL, partly because they kept each other to their shared vision. A representative of HWL said in the interview: *"In the workshops you are together talking about a subject (...) how it should be with the management of the green-blue network and then you grow towards each other and certainly in that period you would have a very good bond together but later on in the implementation things eventually changed. It's not that the common interest which you initially shared remains a top priority (...)."*

What becomes clear from this last paraphrase is the fact that each party, be it HWL, LTO, or any other party, still have their own interests which they always keep in mind so there is certainly no blind trust among parties. One farmer even claimed that there is still tension between farmers and HWL as *"HWL tries to have influence on farmers' lands*." Other participants mention the political sensitivity of collaboration between a farmer's organisation and a nature organisation which made that they could never work together in a fully transparent way. Each foreman had to stay true to the identity, interests and followers of their organisation. In the current phase, in which the future financial situation of the field margins is still unclear, the distrust appears to grow among parties as one participant states that farmers appear to gain the upper hand. So as several participants mention the importance of the green-blue network as a common interest for the collaborative parties they also emphasise the difficulty for organisations to weigh their own interests with the common interest of the collaboration.

The role of the governments was more or less facilitative and supportive and therefore the collaboration was done on the basis of equity. The initiative of the project was in the hands of the societal parties. However, according to some participants there still existed some tension between government parties and societal parties, especially towards the Water Board who changed their role during the process and decided to withdraw and focus more on their core business water quality. This meant that they stopped actively supporting the extension of the green-blue network but continued to financially contribute to the field margins. Possibly, this change in the stance of the Water Board resulted from the up scaling and fusion of the smaller Boards into the current one which covers the complete Hollandse Delta. Another possible explanation relates to the earlier mentioned "dredging-affaire" in which the Water Board stood against the municipalities and Groenbeheer to decide which party had to pay for the extra dredge costs, resulting in a lawsuit which was won by the latter. Several

participants claim that this case had a negative impact on the relationship between the Water Board and several parties such as SOHW, Groenbeheer and HWL.

Other commentary regarding the relationship between government parties and societal parties addressed the increasing distrust towards the government. A representative of HWL mentioned about the collaboration with the government: *"they do not stick to the agreements and started selectively "shopping" in the jointly composed policy document on the landscape (structuurvisie)."* This shows the thin line in weighing self-interests and collective-interests for collaborative parties.

The majority of the participants confirm the idea that the societal parties gained a stronger position towards the government because of their shared interests and shared action. Both representatives of governmental parties and societal parties stress the influence of this joined action in adopting the field margins and the green-blue network in the landscape policy plan (structuurvisie) for 2030. Moreover, the participants claim that the partnership of these parties eventually resulted in the acquisition of the title of National Landscape, which in its turn contributed to counter the planning pressure from Rotterdam and both the provincial and national government. The representative of the province stresses the relation between the shared vision of the parties and the observation that the region of Hoeksche Waard gained priority above other regions by the province when it came to financial support for National Landscapes. Another participant states the joined pressure which parties practiced on the Water Board, persuading them to financially contribute to the field margins and pointing to their responsibility for nature and landscape. According to a representative of SOHW, the field margins became a strong political means for involved governments to improve their position and to receive positive attention. Another representative of SOHW confirms this by describing the political weight of developments within the Hoeksche Waard since every municipality is weighing these developments and decisions in relation to the reclassification pressure from the province, as if they are playing a game of chess. A third participant confirms this but includes SOHW as well as being a party with a political interest in the field margin project.

According to two interview participants, the power and influence of HWL has increased in the last decades because of their strong PR, high budgets and number of personnel, and strong organisational capacity. These characteristics makes that they can influence government decisions. One of these participants dispraises the perception that HWL is the authority when it comes to nature because it is not them but the farmers who spend most of their time in the field. Another issue raised by one of the participants is the doubtful role of scientific reports about the effect of the field margins on biodiversity and natural pest control. According to him, most reports are prejudiced written, emphasizing the positive effects but hardly addressing the negative aspects of the implementation of the margins. Such reports often disadvantage the business of the farmer.

This section shows the problems that occurred within the community-based process of the Hoekshe Waard as a result of organisations' individual considerations on their accountability for both their individual interests and the interests of a partnership.

6.2.2.4 The mutuality dimension

As stated before, many actors mentioned the shared interest represented by the green-blue network. As discussed in the previous section, in order for the green-blue network to provide functions for natural pest control, many land owners and management or conservation parties had to cooperate. This awareness existed among many participants and one representative of HWL described the purpose of this essence of the workshop as follows: *"In order to define that if all parties would cooperate, in particular the Water Board, the possibility would exist that in nearly all of the Hoeksche Waard a plan for the green-blue network could be developed on the basis of that concept."* Although the majority of the participants acknowledged the interdependency of parties, they also pointed out that this interdependency is missing in practice which has to do with the fact that the green-blue network was not economically profitable. The preservation of the current network comes mainly from the willingness of landowners instead of a certain type of necessity. According to a farmer representative: *"if a farmer now sets his field margins his main motivation is still not to reduce his lice, it is an interlinking of several factors but it is not his main purpose."* According to a representative of HWodka, farmers are not easily willing to change their practice but instead need external impulses to be convinced of innovation. Often, farmers will follow a forerunner when they realise the potential of an innovation.

A representative of the partnership of the local municipalities summarised in the workshop: *Everybody knows that it is senseless to focus with your field margins on meadow birds when you're the only one doing it for 100 meters and that it is an exchange-system with the dikes (...), everybody knows that and parties work hard on this but since the profits are not yet repaying there is no dependency (among actors). The water board still mostly benefits from mowing everything in one week so than we can quickly do all the maintenance work in only one week.* This comment shows that, according to this participant, actors were aware of the importance to connect different landscape elements in order to generate results, in this case more meadow birds. It also shows that they were aware that they would be dependent on each other to realise these results as the green-blue network transcends property boundaries. However, as profits are not repaying, actors' economic incentives disappear and therewith interdependency disappears.

Another observation related to this lack of mutual interdependency in practice is that one participant out spoke his disappointed that the Water Board did not change the composition of herbs in the road margins so that these would contribute to the biodiversity of the overall network. According to this participant, the main reason why the (rough-grained) network had not (yet) been fully deployed was the unwillingness of public parties such as the Water Board, municipalities and the province to change their management of several dikes and road verges and invest in the further development of the network. When the argument was given that this could have to do with the financial crisis at that time the above mentioned participant said: "*(...) before that time it did not happen either because in the old landscape management plan 30 hectares of dike management were included which never reached more than 6 hectares (...). So it has also to do whether you are willing to invest as a government*

(...) and this priority is low." A representative of SHOW acknowledged the importance of the landscape quality for long term developments in a region since it contributes to the attraction of new inhabitants and companies. Unfortunately, according to this participant, politicians and public agents often neglect this as they prefer to make plans for the short term to score with the public.

Although the farmers who joined the project managed their own field margins, the remaining elements such as dikes and creek banks were jointly managed by HWL and Delta Natuurbeheer, commissioned by Groenbeheer. Groenbeheer is a foundation established and commissioned by both the Water Board and the local municipalities and given the task to maintain the landscape elements in the Hoeksche Waard. The joined responsibility for the management of these landscape elements by both farmers and nature conservationists had been a precondition of Groenbeheer. This shows a clear example of collaboration between different parties for the maintenance of the green blue network. Collaboration between the Rietgors and HWodka on the implementation of field margins was also intensified as the efficiency driven approach of HWodka is complementary to the field margins implemented by the Rietgors. These forms of collaboration show the complementarity among parties for the maintenance and development of the green-blue network.

This section shows the mutual interdependency among parties in the Hoeksche Waard for the implementation of the green-blue network. However, as each party has to weigh their self-interests with the collaborative interests and collaboration is voluntary, some parties appear to prioritise the collective interests lower than self-interests which hinders collaboration.

6.2.2.5 The trust and reciprocity dimension

Regarding the intensification of the collaboration between parties, the opinions of participants are quite diverse. Some claim that the collaboration among parties intensified as people ran into each other more often during meetings and deliberations, whereas others claim there is no clear observation that collaboration intensified in the last decade. Regarding the relationship between the nature organisation (HWL) and the farmer organisation (LTO) several participants claim that the cooperative attitude between both parties already existed since a long time ago. The relationship had been strongly improved since the land development plans in a part of the area in the 1970's. During the plan making phase of this project both HWL and LTO came to the realisation that they both had the same vision on how the area should be developed which was discordant with the vision of the government party. Eventually both parties cooperated to implement their shared vision in the land development plan which was the start of their improved relationship. So there already existed social capital between the nature organisation and the farmers' organisation which probably stimulated collaboration between these parties.

Although the relationships between parties was already quite open and cooperative, several participants confirmed that during the field margin project and the development of the green-blue network, these relationships further improved, intensified or broadened. For one, HWL and LTO renewed their collaboration since

several funds were made available by the government to invest in biodiversity objectives which eventually led to the start of the field margins project. According to some of the participants the trust between persons and parties grew throughout the process as a result of the many meetings and conversations about the plan making and implementation of the field margins. Collaboration between both parties also existed in their lobbying performance in favour of receiving the National Landscape title and each party manipulated a different government department. When asked about the relationship with HWL, the representative of LTO answered: *"It (the relationship) improves when you frequently are each other's collocutor. You speak the truth to each other more easily. (...) At a certain point, it occurred that some tensions arose about certain topics (...) and if you than sat together (...) you would tell each other the truth."*

Another farmer and representative of HWodka said about the relationship between nature organisations and farmers: *"(...) it is a very slow growing process (...), environmental friends - sharp guys - you can say we don't want to have anything to do with you, but I say come and sit at the kitchen table (...). So by opening up and these kitchen table conversations you start to know each other, you start to appreciate each other and you start having a constructive dialogue."*

The understanding and trust between HWL and farmers has also increased which should be proved, according to a participant: *"by the fact that natural elements such as field margins are directly attached to cultural elements such as crop fields without any problems."*

The partnership between the organisations appears still actively supported as one participant, who is a member of HWL, claims that there still exists a strong collaboration between HWL and the LTO and that the new chairman of the LTO has full intentions to continue this relationship. However, according to the representative of the ministry of VROM, the collaboration within the Hoeksche Waard appears to be diminishing now the future existence of the field margins is uncertain. According to a representative of SOHW, all of the parties that were initially involved in the field margin project are still putting effort in it. Furthermore, six participants confirm that they are convinced that future landscape development should be collective and in a bottom-up matter. One participant, who is a farmer, underlines this notion but adds the importance of mechanisation in combination with collaboration for future landscape development. He states that the regulations concerning biodiversity are very general and often controlled by a so-called "check-culture" which is based on checking the presence of facilities for biodiversity instead of checking the biodiversity itself. Such regulations only counteract the business of the farmer since they are not rewarded for having biodiversity but instead they get restricted. Policy concerning biodiversity should therefore be more area specific and customised according to a representative of HWodka. Another participant emphasises the importance of a future change in the management of public space such as road verges towards a more ecological form of management.

This section shows that the social capital has further increased in the last decade, as several parties claim that trust and reciprocity has increased among parties. However, the paragraph on the autonomy dimension shows that even within the local parties, some distrust exists as each party has to weigh self-interests with collective interests.

6.3 Identified factors for effective actor collaboration

Several collaborative processes have been identified by the actors throughout the interviews. However, when asked about the possible factors for this collaboration among parties no unanimous answer was given. Instead, a broad range of factors was mentioned by the participants, all related to the collaborative process in the Hoeksche Waard during the last decade. The following sections elaborate on these different factors as perceived by the participants. During the workshop, the participants jointly reflected on the most mentioned factors in order to increase understanding on their impact and role within the community-based process.

6.3.1. The green-blue network as a factor for effective actor collaboration.

According to the representatives of SOHW, the field margins play an important role in the integration of different sectors in the landscape as it connects people and leads to a synergy of effects. One participant answered on the question what role the green-blue network had played within the collaboration as follows: *"Every area needs a unique selling point, a project which visualises what the current situation in an area is, and for us these are the field margins. And besides it's also very poetic as it connects, it is diverse, and each has its task and each has its function but all together this results in a colourful palette which gives a synergy of effects."*

Together with the whole green-blue network the field margins function as the "coat hanger" for all kinds of interests which results in new opportunities for collaboration between parties and entrepreneurs. Other participants describe the strength of the field margins and green-blue network as the ability to bundle different interests and values with only one measure. According to a representative of Groenbeheer many parties have the same interest in the green-blue network: *"(...) it is more like a support for the parties which all have the same interest being the green-blue network."*

Some of these participants confirm the relation between field margins and a shared interest which in its turn led to a stronger (and broader) collaboration. According to two participants, the parties in the Hoeksche Waard have a joined interest in the field margins as they contribute to the attractiveness of the landscape which indirectly leads to higher price for a farmer's product and a higher landscape quality. The same participant not only stresses the importance of the landscape elements itself to improve collaboration but also the related process of joined management of the green-blue network by both HWL and Delta Natuurbeheer. One representative of SOHW states the partnership between parties in the field margin project as the core for the current collaboration in the Hoeksche Waard. When asked about the core of this collaboration he stated: *"(...) if you would extend it quite far, from these parties who found each other at that time round the landscape and from there worked towards a National Landscape, to that project of biodiversity, field margins, yes that still is the core.* And he continues: *"But you see that other parties hitch on to that, it's not that*

they keep hanging around a theme like biodiversity forever, it eventually goes its own way or it unloosens itself."

When a discussion statement was introduced during the workshop which related to the strength of the green-blue network, all participants agreed on the idea that it had provided a common interest in the deliberation of parties. One participant confirmed by stating that *"everybody has a profit in it."* The importance of the green-blue network and its field margins was further acknowledged when a provocative statement was brought forward which implied that the green-blue network had not contributed in any way to the collaboration among actors. Participants from different organisations refuted this statement claiming that the green-blue network is *"the place where you meet each other, nature and agriculture. And we had the chance to have something in common and if it wouldn't succeed over there then it wouldn't succeed anywhere (...). And I think it is crucial to have something in common on that green-blue network."* Another participant added: *"The green-blue network, or the linkage between nature and agriculture, has always forced the societal parties and the governments to step out of their comfort zone or their cocoon in order to involve in the discussion and work with it in a solution oriented way. And after 11 years this becomes a sort of automatism, it gets in your system and now it's even needless to say to gather your partners in the area before starting a new process or trajectory (...)."* A representative of HWL further supported this opinion by adding: *"in order to work together you need a binding factor else it is loose sand, for us this factor was the green-blue network."*

The representative of the ministry, who is aware of the concept of ecosystem services, describes the role of these elements as creating a win-win situation and therefore a common interest so that parties advance together for which they use the green-blue network as a fundament for their common deliberation among stakeholders.

6.3.2 Other factors for effective actor collaboration.

Although the physical green-blue network and the knowledge on the green-blue network appear to have contributed to the efficient collaboration among actors in the Hoeksche Waard, other important factors had been identified by the participants as well. Community-based planning revolves around complexity and a multitude of influences. Throughout this study, the following factors appeared to have influenced the structure of the social network and the efficiency of the collaborative process.

According to almost all participants, the planning pressure from the city of Rotterdam created a common enemy and therefore a shared interest in preventing the Hoeksche Waard to become an expansion area of Rotterdam. This pressure or fear was therefore indirectly a cause to acquire the title of National Landscape and to portray the Hoeksche Waard as an attractive landscape with a unique cultural identity. However, some participants provide an important critical note for this statement since not every party or individual recognised the pressure of Rotterdam as a disadvantage. The Water Board and several farmers could possibly profit from such a development since this would increase the tax incomes for the Water Board and result in a high financial compensation for the farmers that would be bought out by the government. The

representative of the Rietgors even denies any influence of this planning pressure on the collaboration among parties in the Hoeksche Waard.

In the workshop, the participants were asked to reflect on the impact of this common enemy, compared to three other factors, and all of the participants placed it on a low rank. According to one, this factor of the common enemy did influence the solidarity in the area as it stimulated the *'we-them' feeling*, but this was mainly before the start of the implementation process of the green-blue network. Others claimed that this influence had only been marginal, they mentioned: *"(...) in Goeree (neighbouring island) they were not able to establish this unity of forces while for them the pressure from Rotterdam was even bigger and you see what happened. They are not only in the smoke of Rotterdam they are in the influential spheres as well (...)."*

Another frequently mentioned factor for effective collaboration in the Hoeksche Waard is the presence of competent leaders and foremen who are motivated to pull the project and who have an open and respectful attitude towards other parties with different interests. One participant even mentions the education level of many involved foremen as a factor for success. According to the representative of the Water Board, who worked with several different regions, the Hoeksche Waard has always had strong organisations and competent people who take up initiatives, sometimes even frustrating the Water Board. In the workshop, the factor of competent leadership was given the highest level of influence on the collaborative process by the participants. The representative of the ministry of Environment said about the importance of competent leadership in the interview the following: *"It strongly depends on people as well, (...) now you had organisations that did not necessarily agree with each other but you did have a group of people who said, come on guys buckle down together. And then an incredible lot is possible, and well that is for me one of the utmost important factors of success, that you invest in the preliminary phase in order to find people with such capacities."*

A third factor which was identified by three participants was the fact that the Hoeksche Waard is an island, and therefore has a relatively small and delimited social network and a strong sense of social identity which can strengthen the partnerships between parties. This factor was discussed during the workshop and placed on rank 2 or 3 by the participants for level of influence. A representative of HWL thought that the island-principal had a strong influence on the professionalization of his organisation in the 1980's as they merged smaller landscape maintenance groups into one larger association which covered all of the Hoeksche Waard. Another participant, related to SOHW, stated: *"So this unity around here, you feel Hoeksche Waarder, we don't feel ourselves Hoeksche Waard East or Hoeksche Waard West (...)."* This local identity becomes also clear from the fact that parties in the Hoeksche Waard are forming a new collective as demanded by the national government in relation to the new CAP. About this, the representative of the Rietgors stressed: *"you can also see it in the future agricultural nature management where we as Hoeksche Waard are planning to establish our own collective and not with Goeree Overflakkee and Voorne-Putte, we just want a collective of the Hoeksche Waard.*

A fourth factor which was frequently brought forward by the participants is money, which in this case is often described to be the limiting factor. Most organisations would eventually withdraw from a project when it becomes financially negative and therefore the continuity of projects mainly depends on the financial means. During the workshop, a representative of HWL mentioned: *"Only when it doesn't cost anything, if it generates money, if you are able to transform this biomass into money by fermentation, there will be a breakthrough. But as long as the costs are higher..."*

Continuity is also mentioned by several participants as a factor for effective collaboration, not only financial continuity but also continuity in involved persons, policy and government support. According to two participants, lack of continuity in governmental functionaries and policy impedes a collaboration process. The representative of the ministry of Environment completely agrees with this observation as he uses the metaphor that *"governments should not only beget the baby but also raise it and nurture it."*

Other factors which are mentioned by one or two participants are trust between parties but more importantly trust between persons, the structure of the landscape, and pure coincidences like the fact that the Hoeksche Waard did not receive the provincial budget for the implementation of the project "Duurzame Landbouw in een Duurzaam Landschap".

Decentralisation and a bottom-up approach also contributed to efficient collaboration according to two participants. They state that the executive power now lies exactly there where the area specific knowledge and efficient implementation lies.

Finally, a second "common enemy" besides Rotterdam is mentioned to be the HSL (a railway); this development occurred before the field margin project but can however have contributed to a sense of alliance.

7. Discussion

The results of this research provide an elaborate insight in the community-based process in the Hoeksche Waard and the actors' perceptions of the impact of the green-blue network on the effective actor collaboration. This discussion aims to place these results in a broader theoretical context. Furthermore, it will critically reflect on these results. Additionally, the discussion will elaborate on the added value of this study and highlights recommendations for future research.

The social-ecological system, as introduced before, proposes the idea that social processes influence ecological processes and vice versa (E Ostrom, 2007; Reyers & Biggs, 2013). In this study, a part of this theory was explored as it focused on the relationship between the landscape structure and the social structure, perceived from an actor perspective. However, no clear and simple answer can be formulated on this topic as social-ecological systems are inherently complex. This study does however provide new insights in the perceptions of local actors on a community-based process and on the impact of the green-blue network on the collaborative action in their area. In the case of the Hoeksche Waard, it appeared that several actors had adapted the knowledge about the green-blue network and recognised the relationship between the green-blue network and the functions it provided. As proposed in the structure-function-value chain (Termorshuizen & Opdam, 2009), the actors benefited from these functions as they linked economic, ecological and political values to these functions. Since the introduction of the knowledge about green-blue networks, new functions have been added to the green-blue network, resulting in different benefits for its users. This leads to the observation that actors in the Hoeksche Waard applied the knowledge about green-blue networks to generate more functions and derive benefits from the green-blue network or that actors have attached new values to this green-blue network. This observation can be a valuable starting point for future research on actor's abilities to transform and apply knowledge about landscape services to create new benefits.

According to some actors, the awareness that certain functions such as natural pest control could only be generated in case different land owners would collaborate in order to develop a green-blue network was present among most actors. However, according to the actors, in practice this awareness appeared not to be a direct reason for every actor to cooperate on the development and management of the green-blue network. Main reason for this lack of practical interdependence appears to be an economic one as the green-blue network provides insufficient direct economic benefits for several parties. Both governmental parties and farmers mentioned that the economic benefits are marginal or insufficient covering the costs, making them easily inclined to cease collaboration. Although governmental parties are financially supporting the field margins, they do not contribute to expand the rough-grained network by adapting their management towards a more ecological form of management. This tension between public and private owners of the green-blue network and its functions can be related to theories on public private partnerships (Bovaird, 2004). In the case of the Hoeksche Waard both individual farmers and governmental parties such as the local municipalities, the Water Board and the

province own and manage parts of the green-blue network. However, since the benefits for developing a green-blue network are different among actors and therefore the actors' willingness to invest in this network varies, a complex situation emerges which appears to hinder the continuity of the community-based process. This observation relates to literature on the tension between self-interest and collective interests of organisations within inter-organisational collaboration processes and confirms the importance of this issue for collaboration practice (Tschirhart, Christensen, & Perry, 2005; Wood & Gray, 1991).

Although the implementation of the physical green-blue network did not directly lead to interdependency between actors, it did however provide a shared interest according to many actors. Actors mentioned that parties from different social backgrounds could relate to the green-blue network and have found varied interests in this physical object. The green-blue network therefore appears to contain strong characteristics of a boundary object. Boundary objects, according to Gieryn (1983) and others, have the ability to converge different perspectives and interests and create a common ground (Carlile, 2002; Leigh Star, 2010). According to Nolin, a boundary object *"(…) includes economical, ecological and social perspectives and can therefore function as a bridge between different social worlds. Boundary objects have to be flexible so that parties in different social worlds can interpret it according to their own needs* (2009, p. 3)*."* The green-blue network as both a physical object and a conceptual idea was acknowledged and used by different actors with different perspectives and interests. The assertion that the concept of green-blue network or ecological network contributes to uniting people has been concluded in an article of Beunen and Hagens (2009). In the Hoeksche Waard, the common interest, provided by the green-blue network and its functions, appear to have contributed to an increased level of trust among actors and more collaboration among local actors. However, since not all actors confirmed this increased trust and some even mentioned an increase in distrust, more in-depth research is necessary to further investigate the possible role of a green-blue network as a boundary object or possibly a boundary concept (Nolin, 2009).

Besides the green-blue network concept, the concept of landscape services also appears to have contributed to the uniting of actors and overcoming different perspectives and interests. According to Opdam et al. (2006), the landscape services concept is inherently related to the green-blue concept as the latter provides the fundament for the first and the first provides value and legitimacy for the latter. The results of this study show that local actors see the economic valuation of the green-blue network as an important aspect of the legitimacy of the green-blue network. In practice however, this economic value appears to be insufficient to address the economic interests of actors such as the farmers. Instead, actors that collaborate in developing the green-blue network do not do this from an (direct) economic interest but from other interests such as societal acceptance or reduced environmental pollution. This observation concurs both with existing literature on the economic valuation of ecosystem services (Costanza et al., 1997; Farber, Costanza, & Wilson, 2002) and critiques on this economic valuation (Chan, Satterfield, & Goldstein, 2012). On the one hand, the economic value of the green-blue network appears to be

important to involve and persuade actors with an economic incentive to collaborate with the green-blue network. On the other hand, not the economic value but social and aesthetic values are considered more important motives for several actors to collaborate in developing the green-blue network. However, looking at the actors' statements on the future situation of the green-blue network, they clearly mention the importance for the network to become economically self-sufficient. Moreover, they mention that future generations of farmers are entrepreneurs and have less room for non-economic values in their businesses. Therefore, this study shows the importance of economic valuation of landscape elements in order to sustain green-blue networks and adds to existing literature that advocates economic valuation of ecosystem services.

Many actors claimed that horizontal collaboration among local actors had improved throughout the community-based process. Vertical collaboration however was not mentioned to have improved except for the relationship between the partnership of the local municipalities and the ministry of Environment. Although some new relationships have developed between governmental organisations and local organisations, distrust has also increased according to several actors since governments prioritised the management of the green-blue network different than societal organisations. Decentralisation and a bottom-up structure, together with the green-blue network, appear to have increased the power and solidarity of local actors. According to actors, this influence or power of private parties partly resulted in the acquisition of the National Landscape title and the adoption of the green-blue network in the landscape policy plan. This observation raises the question whether bottom-up approaches of landscape planning stimulates solidarity of local actors and increases the distance between the local and the regional or national level of actors. This issue touches upon what is discussed in the article of Bowles and Gintis (2002) in which is stated that communities will gain in importance in the future since many current problems cannot be addressed by government or market solutions but acquire face-to-face interactions of individuals as such problems emerge from the same type of interaction.

Furthermore, according to testimonies of actors, the partnership of the local municipalities (SHOW) evolved into a bridging organisation, adopting the facilitative role of other governments and further improving collaboration between organisations (Berkes, 2007; Imperial, 2005; Rathwell & Peterson, 2012). This however, is not so much related to the introduction of the knowledge about the green-blue network but is a result of the decentralisation of the government policy. Not all actors perceived the role of SOHW as an important link between parties in the social network but instead mentioned it to be a superfluous government layer without a clear function. Apparently, actors have different perceptions on the importance of a bridging organisation to stimulate collaborative action among parties.

Besides the green-blue network as a shared interest, more factors that affected the social structure and processes in the Hoeksche Waard have been identified by the actors. Some of these factors accord with the variables proposed in the social-ecological system framework of Ostrom (2009), others could not be related to these variables and possibly provide new insights on variables for effective actor

collaboration. According to several actors, the competences of individuals and organisations have been influential on the collaborative process and accords with Ostrom's leadership variable in which leadership qualities among actors stimulate collective action. Also, the strong social identity and cohesion of the area contributed to the collaboration among actors which partly relates to existing theory on the role of identity within efficient collaboration (Hardy, Lawrence, & Grant, 2005) and to Ostrom's social capital variable. Some actors also identified the size of the island as a variable for effective collaboration which would accord with Ostrom's variables on the size of the resource system and the number of users. Although not explicitly mentioned by actors, the variable on collective choice rules (which implies the positive effect of autonomous decision-making by actors on the collective action) appears to have affected collaboration as some actors mentioned the importance of the bottom-up structure and the absence of government regulations during the community-based process. Social learning or boundary experience, as defined by several authors (Albert et al., 2012; Ataöv & Ezgi Haliloğlu Kahraman, 2009; Innes & Booher, 1999), was also identified by some actors as a factor that increased the level of trust among actors and therefore improved social capital between actors. Lastly, the common enemy as a factor was identified to stimulate collaboration among local actors. In the case of the Hoeksche Waard, this common enemy was the city of Rotterdam that was intending to annex the area and turn it into an industrial area. This factor is not included as a variable in the social-ecological system framework, possibly because this is an external factor from outside the system. It does however relate to the parochial nature of many communities which cannot be seen separately from well-working communities according to Bowles and Gintis (Bowles & Gintis, 2002).

When comparing the different data sources, some notable observations can be derived. An important difference between the workshop and the interviews was the perception of actors on relevant factor that affected effective actor collaboration in the Hoeksche Waard. In the interviews, many actors named the competences of individuals as an important factor but also confirmed the "common enemy" to be a noteworthy factor. However, when discussed and graded for its relevance during the workshop, it appeared that many participants gave the "common enemy" a low grade and instead rated the "island principle" and the green-blue network higher. This could possibly imply that participants conformed to each other's opinions during the workshop. It could however also imply that bringing forward different factors than they had identified themselves made them aware of the importance of other factors. Furthermore, when comparing the observations in the meeting of the "societal midfield" and the interviews it appears that the role of SOHW as a bridging organisation is a rather complex one. Being a partnership organisation of the local municipalities, SOHW appears restricted in facilitating civic initiatives since it must take in account different political considerations from local municipalities.

Although this research has been conducted very carefully, still certain points of attention need to be mentioned concerning the process. Since actors' opinions and perceptions were the main data source in this study, I tried to involve at least one representative of each actor group. However, representatives' perceptions can never

be fully generalised for a complete organisation. This certainly counts for the farmers' organisation as in this case farmers also had individual interests being the main landowners in the area. Therefore, a larger amount of farmers within the interview population would have contributed to better understanding of the farmers' perspective on the knowledge about the green-blue network and the collaboration with other actors.

By using mainly actors as a data source, another risk occurs regarding the actors' discourse on the research topic. As actors are strongly involved within a certain process, they can adopt a discourse that could be beneficial for their individual position and explain certain events from their own "coloured" perspective (Gergen & Gergen, 2000). During the interviews, for instance, it appeared to me that representatives of governmental organisations strongly confirmed the added value of the green-blue network, whereas several representatives of societal organisations were more critical towards the role of the green-blue network within the process. For the first group it can be of interest to not criticise the landscape changes which were part of their own policy, affecting the reliability of the data.

This research drew upon a single case which was investigated intensively. In order to be able to come to a more general understanding of green-blue networks in practice, other cases on green-blue networks should be investigated and compared.

This research contributed to an increased insight on actors' perceptions of the role of the green-blue network within a practical case of community-based planning. Furthermore, several factors were identified by the actors which influenced the effectiveness of the collaborative process within the social-ecological system. To further increase understanding of the implementation of green-blue networks in planning practice, an important economic obstacle has to be overcome. Many landscape users have an economically driven perspective or interest in the landscape. In the case of Hoeksche Waard, the direct economic value of the green-blue network and related landscape services is insufficient to come to a sustainable and self-regulating landscape system. Therefore, more research needs to be done on alternative and innovative economic models which would convince both farmers and governments to further engage in the development of green-blue networks.

8. Conclusion

This study aimed to explore different actor perceptions of the impact of the green-blue network on effective actor collaboration in a community-based process in the Hoeksche Waard. Although no strict conclusions can be derived from this singular case study, this explorative research did however result in several valuable insights which provide material for future studies on community-based planning in social-ecological systems.

Firstly, this study showed the awareness of actors of a relationship between the landscape structure and different benefits they individually obtained from this structure. Several actors stressed the mutual dependency among actors to collectively manage the green-blue network as a precondition for them to be able to obtain individual benefits such as increased biodiversity, reduced use of pesticides and reduced water pollution. However, due to insufficient economic value of certain benefits, incentives for collaborative development of the green-blue network diminished and further development faltered. This observation adds to existing literature on the autonomy dimension of collaborative processes and the difficulty of reconciling individual interests and collective interests in interorganisational collaboration. Besides, the observation on the insufficient economic value of the benefits of the green-blue network in the Hoeksche Waard shows the importance of economic valuation of ecosystem services in collaborative landscape planning.

Secondly, this case study led to the observation that local actors were able to adapt the green-blue network in order to make it generate new functions which addressed their interests and therefore expanded the benefits provided by this green-blue network. This indication gives new opportunities to conduct further study on the ability of actors to adopt and apply knowledge about green-blue networks into practical situations for common benefits.

Thirdly, this study reveals insight in the ability of the green-blue network to function as a boundary object in stakeholder deliberation and collaboration as it incorporates different interests of actors and therefore represents a shared interest. Further study on the functioning of the green-blue network concept in deliberation processes could support this observation and increase applicability of this concept as a practical instrument for stakeholder deliberation.

Fourthly, research on the perceptions of actors on the social structure in the Hoeksche Waard showed that horizontal collaboration among actors had increased whereas vertical collaboration appeared not to. This observation suggests the increase of distance between actors on the local level and on the regional or national level as a result of the bottom-up approach which stimulates solidarity among local actors and horizontal collaboration. Although this is insufficiently proved within this study, it can however provide a starting point for future research in order to assess possible drawbacks of bottom-up approaches and community-based planning.

Finally, as this study builds upon the social-ecological system framework, it further supports the proposition that social-ecological systems are inherently complex systems. This study proves once more that no unambiguous relationships can be identified

within social-ecological systems as actors adhere to different perspectives and multiple variables affect actor collaboration. Several of the variables identified in this study that affect actor collaboration concur with the list of variables as proposed by Ostrom and therefore further supports some general assertions about actor collaboration and self-organisation. However, as several other variables, identified by the actors in this study, did not correspond to this predifned list, this study proves once more that further study on social-ecological systems and community-based planning is needed.

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List of figures

List of abbreviations and acronyms

SES	Social-Ecological System
SHOW	Samenwerkings Orgaan Hoeksche Waard
LTO	Land- en Tuinbouw Organisatie
HWL	Hoekschewaards Landschap
H-Wodka	Hoeksche Waard op de Kaart
RG	Stichting de Rietgors
LM	Local Municipalities
CAP	Common Agricultural Policy
GB	Groenbeheer
WB	Water Board
PSH	Province of South-Holland
Min. I&M	Ministerie van Infrastructuur en Milieu
VROM	Verkeer Ruimtelijke Ordening en Milieu
BAP	Biodiversiteits Actie Plan
FAB	Functionele Agro Biodiveristeit

Appendices

I. Basic set of interview questions

Can you tell me a bit more about your organisation/business?

What do you in general think about the current landscape management in the Hoeksche Waard?

Has your opinion about the landscape management changed during the last decade?

Where was the purpose of the workshop in 2004 according to you?

Can you tell me what you have learned from the workshop in 2004 about natural pest control; did it provide new insights to you?

- Did you start looking at the landscape differently?
- Did it make you perceive the landscape elements (e.g. dikes, verges, margins) differently?
- After the workshop, did you see a relationship between all ditches, field margins and verges as being a part of a network?

Can you tell me about the application of the knowledge introduced by Alterra in the workshop?

- Did the knowledge provide any new benefits for your organisation/business?
- To what extent are you dependent on other actors to exploit these benefits?
- Do you recall if other parties also benefited from the new form of management related to natural pest control?

Did the green-blue network and field margins produce sufficient benefits for your organisation/business?

When did you got convinced of the added value of the field margins?

How did the collaborative process of implementing the green blue network went?

- What were the implications of this network for the management of the landscape elements?
- Did your cooperate with other actors in any form before the workshop in 2004?

What is in your opinion the strength of the green-blue network and the field margins?

Can you tell me something about the relationships between parties in the Hoeksche Waard?

- Did your relationship with other actors change throughout the last decade, both in positive or negative ways?
- Did an increase in collaboration between parties occur?

Can you explain where this change comes from?

- Can you give an example from which this becomes apparent?

What is your opinion about the power balance between involved parties?

What are according to you the factors that have contributed to an efficient collaboration in the Hoeksche Waard in the last decade?

- What is the role of the representatives of the parties?

Are you still involved with collaborative projects concerning the landscape in the Hoeksche Waard?

How does the future of the landscape in the Hoeksche Waard look like according to you?

II. Workshop program (in Dutch)

De opzet

De workshop zal gehouden worden op 22 januari in het gemeentehuis van Strijen bij SOHW. We beginnen om 10.00 uur en afhankelijk van de voortgang zal het uiterlijk tot 12.00 uur duren.

Er zullen twee onderzoekers aanwezig zijn tijdens de workshop. Onderzoeker 1 (Koen) neemt de presentatie en de leiding van de discussie voor zijn rekening. Onderzoeker 2 (Daniël) maakt aantekeningen van opvallende uitspraken en waarborgt de objectiviteit van de workshop doordat deze persoon niet direct betrokken is bij het onderzoek en de persoonlijke verhoudingen. Bovendien is er meer overwicht door de aanwezigheid van twee onderzoekers.

Onderzoeker 1 zal de workshop openen met een korte inleiding waarbij algemene inzichten tot nu toe worden gepresenteerd. Vervolgens legt hij enkele stellingen voor die gekoppeld zijn aan zijn bevindingen en waarbij hij verwacht dat mensen hier op reageren vanuit verschillende perspectieven.

De workshop zal worden opgenomen met een voice-recorder en de resultaten op het bord zullen gefotografeerd worden.

Planning

10.00 uur	Koffie/thee en een korte inleiding door mij over mijn bevindingen tot nu toe.
10.15 uur	Ruimte om te reageren op mijn bevindingen door deelnemers.
10.30 uur	Discussiëren over door mij voorgelegde stellingen aangaande de samenwerking in de Hoeksche Waard.
11.45 uur	Recapituleren en afsluiting workshop.

Stellingen

Stelling 1:

De samenwerking tussen partijen binnen de Hoeksche Waard is erg efficiënt vergeleken met gebieden zoals Voorne-Putte en Goeree. Welke van de volgende factoren droegen daar aan bij?

1. de uitbreidingsdruk vanuit Rotterdam als gezamenlijke vijand;

2. de competenties en motivatie van organisaties en individuele personen binnen de Hoeksche Waard;

3. de GBDA en akkerranden als gezamenlijk landschappelijk doel;

4. het eilandprincipe met een hecht netwerk en saamhorigheid;

(Geef de invloed aan door ze de cijfers 1 (hoog) tot 4 (laag) toe te kennen).

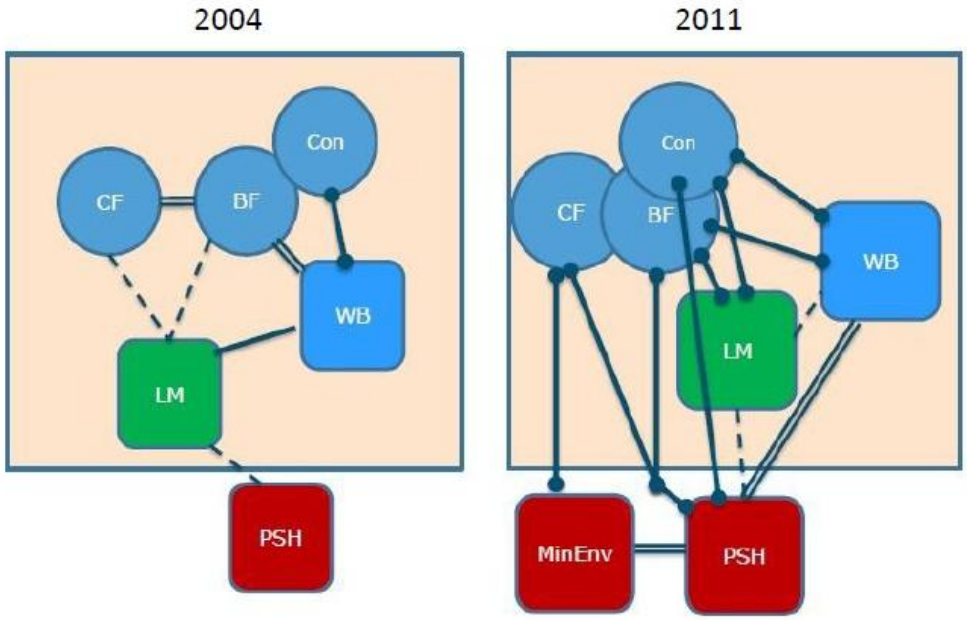
Stelling 2: *Zonder het akkerranden project zou er waarschijnlijk net zo intensief zijn samengewerkt tussen partijen op het gebied van landschapsbeheer en –ontwikkeling als de afgelopen jaren werd gedaan.*

Stelling 3: *De partijen in de Hoeksche Waard zijn niet van elkaar afhankelijk om de functies (FAB, biodiversiteit, bufferfunctie etc.) van de GBDA te verwerven/gebruiken.*

Stelling 4: *De beheerders van het landschap zijn meer gaan samenwerken doordat de groen blauwe dooradering op een regionale schaal functioneert.*

Stelling 5*: De kracht van de akkerranden en de GBDA is dat ze de verschillende belangen van partijen zoals meer biodiversiteit, hogere recreatieve waarden en natuurlijke plaagregulatie, gezamenlijk behartigen.*

Stelling 6: *Dit is een correcte weergave van de ontwikkelingen in het social network van de Hoeksche Waard in de afgelopen 10 jaar (zie afbeelding).*



Stelling 7: *Uiteindelijk komt het voortbestaan van de GBDA en de akkerranden neer op een kwestie van geld.*

III. List of coding themes

Nr.	Theme	Description	Keywords
1.	**Perspective on the landscape**	Information about changes in the actor's perspective on the landscape as a service providing system.	Paradigm; perspective; landscape system
2.	**Role, purpose and content of the workshops of Alterra**	Information about a clear comprehension of the introduced knowledge on green-blue networks and the positioning of the workshop within the process.	Alterra; design; seads; workshops; natural pest control; structure; rough-grained network
3.	**Recognition of the green-blue network.**	Information about the actor's comprehension of the interrelatedness between landscape elements.	Green blue network; dependency; management
4.	**Functions and advantages of the landscape elements**	Information on the recognition of the added value and benefits of landscape elements.	Function; benefit; interest; dike; verge; creek(bank); field margin.
5.	**Change in relations between parties**	Information on the development of trust or distrust between actors and the respect for each other.	Trust; understanding; suspicion; contact
6.	**Collaboration among parties**	Information on the collaboration between parties in the last decade; changes and new initiatives.	Collaboration, cohesion, together, solidarity
7.	**Balance in power**	Information on changes in power and support within and among parties.	Powerbalance; position; pressure; influence; lobby; politics; support
8.	**Role and process**	Information on the division of roles and the coarse of the process.	Role; leader; lead; dates
9.	**Role of the field margins and green blue network within the collaboration**	Information on the possible relationship between the green-blue network and collaborative actions.	Influenc; factor; vision; understanding; common interest
10.	**Other factors for efficient collaboration**	Information on the role of other factors that possibly influenced the community-based process.	Rotterdam; spatial pressure; Work of humans; foremen
11.	**Future situation of landscape management in the Hoeksche Waard**	Information on the continuity of the green-blue network and the actor collaboration.	Continuity; future; landscape management
12.	**Other**	Other information which cannot directly be placed under one of above mentioned themes.	-

IV. Translated interview quotes

"If you just map the complete structure of dikes and creeks and verges (...) is that structure then almost sufficient covering to provide all of the Hoeksche Waard with natural pest control? The answer was almost yes, (...) and certainly when this structure exists and no other functions are related, or at least no other functions which hinder it, it's just there, (...) then I think it is strange that as a government you won't invest in your own green"

Als je nou heel die structuur van dijken en kreken en wegbermen in kaart brengt (...) is dan die structuur van die groen blauwe dooradering is die dan voldoende dekkend om heel de Hoeksche Waard die natuurlijke plaagonderdrukking te kunnen hebben? Nou het antwoord was nagenoeg wel, (...) en zeker als je die structuur dan die bestaat, die er gewoon ligt waar eigenlijk geen andere functies of in ieder geval geen andere functies zijn die het belemmeren, (...) het is er gewoon.. En dan vind ik het gek dat je dus wel wilt investeren in het beheer van akkerranden en daar dus ook een fors bedrag wilt steken in inkomstenderving omdat het dus aan productie onttrokken is, en je wil als overheid niet je eigen groen, (...) wil je niet op een goede manier beheren (HW04).

"the green-blue network should be maintained as it functions as the building stone of the landscape structure of the Hoeksche Waard."

(...) op dit moment proberen we die akkerranden in stand te houden omdat het een onderdeel is van het inrichtingsconcept van de Hoeksche Waard van de groen blauwe dooradering, en dat is de bouwsteen geworden (HW07).

"if a farmer now sets his field margins his main motivation is still not to reduce his lice, it is an interlinking of several factors but it is not his main purpose."

Nee als een boer nu zijn akkerrand zet dan is nog steeds niet zijn motivatie om minder luizen te hebben. Dat is een meekoppeling van een aantal factoren maar dat is niet zijn hoofddoel (HW01).

Everybody knows that it is senseless to focus with your field margins on meadow birds when you're the only one doing it for 100 meters and that it is an exchange-system with the dikes (...), everybody knows that and parties work hard on this but since the profits are not yet repaying there is no dependency. The water board still mostly benefits from mowing everything in one week so than we can quickly do all the maintenance work in only one week.

(...) iedereen weet dat het geen zin heeft om met je akkerranden je te richten op akkervogels als jij het alleen doe op honderd meter en voor de rest in de HW niet, dat het een uitwisselsysteem is van de (...). Iedereen weet dat, en daar werken de partijen ook heel erg hard aan maar omdat nog steeds niet die baten zich terugbetalen denk ik dat er geen afhankelijkheid

is. Kijk het waterschap heeft er nog steeds het meeste baat bij om alles in een week kaal te maaien (…) en dan gaan we in eén keer hup het onderhoudt plegen (HW06).

"*(…) before that time it did not happen as well because in the old landscape management plan 30 hectares of dike management were included which never reached more than 6 hectares (…). So it has also to do whether you are willing to invest as a government (…) and this priority is low."*

(…) maar voor die tijd gebeurde het ook al niet, want in het oude landschapsbeheerplan stond ook al 30 hectare dijkbeheer en dat is nooit verder gekomen als 6 (…). Dus het is ook wil je als overheid en als waterschap of als gemeente daarin investeren en die prioriteit is laag.. (HW04)

It used to be that we as HWL, stood relatively alone in our endeavour for biodiversity and we gained a partner because nature turned out not only to be important for nature alone, no it had also its importance for agricultural business, natural pest control, reduced pesticides, improved water quality.. So much broader than we initially realised."

Ja voor ons als Hoekschewaards Landschap, vroeger was het zo dan stond je betrekkelijk alleen in je streven naar biodiversiteit en met deze workshop kregen wij er dus een partner bij he want biodiversiteit was niet voor de natuur alleen belangrijk, nee die is ook belangrijk voor simpelweg de agrarische bedrijfsvoering, natuurlijke plaagonderdrukking, minder bestrijdingsmiddelen, betere waterkwaliteit.. Dus veel breder dan wij tot dan toe besefte (HW04)

The effect of the insects (natural enemies) is stronger if you add your surroundings (…) so how do you as a farmer with field margins manage that you get your surroundings (landscape elements) to contribute to that strength, and more people became enthusiastic about this.

Je had die cirkels van hoe ver kunnen die insecten komen en hoe sterk zijn die insecten en die zijn veel sterker die cirkels als ze met elkaar verbonden zijn en die zijn nog veel sterker als de omgeving er ook bij hoort. Dus hoe krijg je dat voor elkaar, hoe krijg jij het voor elkaar als boer met je akkerranden dat je de omgeving zo ver krijgt dat zij bijdragen aan die kracht en daar gingen toen steeds meer mensen enthousiast over worden. (HW09)

This didn't happen over a year, but you see, people who were shouting in 2004/2005 I don't want this rubbish on my land are now pleasantly joining and starting to appreciate it (the flower margins)."

Maar dat krijg je niet in een jaar voor elkaar, kijk mensen die in 2004/2005 riepen, die rotzooi moet ik niet op mijn land hebben, die doen nu vrolijk mee en beginnen er aardigheid in te krijgen. (HW07)

"In order to define that if all parties would cooperate, in particular the Water Board, the possibility would exist that in nearly all of the Hoeksche Waard a plan for the green-blue network could be developed on the basis of that concept."

Om vast te stellen dat als alle partijen bijeen werkten, met name het waterschap, dat dan door bijna de gehele Hoeksche Waard de mogelijkheid was om op basis van dat concept een plan te maken voor de volledige groen blauwe dooradering. (HW04)

It (the relationship) improves when you frequently are each other's collocutor. You speak the truth to each other more easily. (...) At a certain point, it occurred that some tensions arose about certain topics (...) and if you than sat together (...) you would tell each other the truth."

Nou, je verbetert dan wel, als je elkaars gesprekspartner regelmatig bent, je je zegt mekaar ook wat makkelijker de waarheid. (...) En op een gegeven moment ook, dan hadden we ook wel eens dingen, wat spanning hier en daar over bepaalde punten. Als het hier over ging (akkerranden resp.) ,maar ook over andere dingetjes en en nou dan uh dan dan als je af ten toe bij mekaar zit en de koppen bij mekaar steekt dan zei je elkaar wel weer ns de waarheid om het zo maar te zeggen. (HW01)

"(...) it is a very slow growing process (...), environmental friends - sharp guys - you can say we don't want to have anything to do with you, but I say come and sit at the kitchen table (...). So by opening up and these kitchen table conversations you start to know each other, you start to appreciate each other and you start having a build dialogue."

En dat is een heel langzaam groeiproces, (...) Milieu defensie, felle gasten, je kan zeggen van joh we willen niks met jullie te maken hebben, ik zeg joh kom maar aan de keukentafel. (...) Maar door dus open te staan, door die keukentafel gesprekken, leer je mekaar wat meer kennen, leer je mekaar waarderen, en ga je ergens gefundeerd de dialoog aan. (HW10)

"by the fact that natural elements such as field margins are directly attached to cultural elements such as crop fields without any problems."

Maar nu, nu is het geen enkel probleem meer, onze terreinen liggen eigenlijk klem tegen de akkers aan, er zit geen afscheiding of afrastering tussen, je stap zo van natuurterrein de akker in en dat gaat allemaal in goede harmonie gaat dat samen. Dus wat dat betreft is er zeker meer begrip voor mekaar gekomen en zijn er minder problemen. (HW04)

"In the workshops you are together talking about a subject (...) how it should be with the management of the green-blue network and then you grow towards each other and certainly in that period you would have a very good bond together but later on in the implementation things eventually changed. It's not that the common interest which you initially shared remains a top priority (...)."

Kijk in die workshops daar praat je gezamenlijk met elkaar over zo'n onderwerp (...) van hoe het dan zou moeten met het beheer van die groen blauwe dooradering en dan groei je naar elkaar toe en zeker in die periode had je een hele goede band met elkaar maar dat is later is dat in de uitvoering toch weer anders gelopen. Het is niet zo dat het belang wat je daar elkaar deelde dat dat in de loop van de tijd ook gewoon boven aan is blijven staan en daar gaan we met elkaar voor (...). (HW04)

"HWL tries to have influence on farmers' lands."

Maar het Hoekschewaards landschap wil ook zn invloed uitbreiden overal en dat kan alleen maar als onze invloed weggaat van bepaalde percelen.. (HW03)

We were disappointed in the LTO because they lobbied in favour of the interception crops, so on national level the relationships with LTO are not that good but that does not have any consequences for the local level, we are together fooling about it."

Kijk het is anders, wij waren natuurlijk ontzettend teleurgesteld in de LTO omdat die zo verschrikkelijk hebben zitten lobbyen voor die vanggewassen, dus op landelijk niveau zijn de verhoudingen met LTO niet zo goed, maar dat heeft geen consequenties voor hier op lokaal niveau, we steken er de gek mee. (HW07)

(...) we were efficiently planning these plots (...) and so what do you do with the remainders? (...) And in Brabant were already some field margins and Rietgors was also thinking about it but from a different angle and then the match is easily made and you decide to give it (the remainders) a different destination."

wij waren die percelen efficient aan het inrichten dan kom je automatisch op een veelvoud van die machinebreedte uit, ja wat doe je dan met dat restantje, (...) in Brabant waren er toen al randen, Janneke Zevenbergen en Rietgors was er toen ook al mee bezig, vanuit een iets andere invalshoek. Ja dan is de match gauw gemaakt natuurlijk dat je zegt van joh we moeten het een ander bestemming gaan geven. (HW10)

(...) around 2011 there was certainly more focus from the ministry of Environment on the Hoeksche Waard as being the example for biodiversity development within agriculture, and still is. Biodiversity has strict dossier divisions but despite that, the ministry of Environment is still scuffing against all of our initiatives, supporting us wherever they can with monitory budget for milieu-aspects (...)."

Ja dus in 2011 was er zeker meer focus vanuit I&M als zijnde biodiversiteits, de HW als het voorbeeld voor biodiversiteitsontwikkeling binnen de landbouw, nog steeds is, biodiversiteit daar zitten strikte portefeuille scheidingen in maar ondanks dat schurkt I&M nog steeds aan tegen al onze initiatieven dat waar ze maar kunnen monitoringsgeld voor milieu-aspecten in de HW nog steeds ondersteunen zijn.. (HW06)

Yes it helps enormously when a ministry stays involved, not only financially but also by showing your interest in the further development of the process (...) and thinking with them without being the one that has to solve it."

Ja nou het helpt enorm als zo'n ministerie ook betrokken blijft, niet alleen financieel en dan van nou we zien het eindrapport wel komen, maar dat je ook toont dat je interesse hebt in hoe het proces verder verloopt en tegen welke problemen lopen we nu aan, en daar ook in meedenkt en zonder dat jij nou aan zet hoeft te zijn om dat op te lossen. (HW13)

"they do not stick to the agreements and started selectively "shopping" in the jointly composed policy document on the landscape (structuurvisie)."

en dan vervolgens is zo'n structuurvisie vastgelegd en vastgesteld op een democratische manier en dan gaan die wethouders en die overheid die gaan daar selectief in winkelen. Ja dan zeg ik, hoezo, we hadden een afspraak met mekaar en als je daar dan weer selectief in gaat zijn dan is het hele onderhandelingsproces, de afspraken die daarin gemaakt worden, is dus waardeloos. Dan ben je gewoon als overheid onbetrouwbaar want daar komt het dan gewoon op neer. (HW04)

"(...) are frequently putting up enormous tasks with us as a region." And she explained that: *"biodiversity has been a central task of the SOHW, the societal parties do not have to interfere with 5 different municipalities for that but only with one: SOHW. The province as well, they only need to interfere with one party, we are a sort of link between the region and it works well. (...) Because the system is there, and it is accepted since it works fine towards the societal parties, it works fine towards the municipalities because they are delighted that they don't have to handle those things, especially in the current times of deregulating tasks."*

Dus biodiversiteit is een centrale taak van het SOHW geweest, de maatschappelijke partijen hoeven daarvoor neit met 5 gemeenten in de slag, die hoeven maar met een partij, SOHW, aan de slag. De provincie hoeft ook maar met een partij aan de slag, dat zijn wij, wij zijn een soort van schakel tussen de streek en.. en het werkt enorm goed, (...) Omdat dat systeem er is. En dat wordt ook geaccepteerd, dat werkt goed naar de maatschappelijke partijen, het werkt goed naar de gemeentes want die zijn blij dat ze dat soort dingen niet hoeven te doen, zeker in de huidige tijd waarin allerlei deregulerings taken. (HW06)

And SOHW (...) appeared and gradually this collaboration improved because later the province withdrew and started to focus on developing bicycle roads."

En SOHW (...) die kwam daar ook al tevoorschijn en geleidelijk aan begon die samenwerking beter te worden, want samenwerking van de 5 gemeentes van de Hoeksche Waard, later trok de provincie zich een beetje terug en die gingen fietsenpaden ontwikkelen. (HW08)

Every area needs a standard-bearer, a project which visualises what the current situation in an area is, and for us these are the field margins. And besides it's also very poetic as it connects, it is diverse, and each has its task and each has its function but all together this results in a colourful palette which gives a synergy of effects."

Kijk iedereen, ieder gebied heeft een vaandeldrager nodig, een project wat visualiseert, hoe het er bij staat in een streek en dat is voor ons de akkerranden. En dat is ook nog eens een keer heel poëtisch het verbindt, het is divers, en ieder heeft zo zijn taak en ieder heeft zo zijn functie maar alles bij elkaar heb je wel een bont pallet wat wel een synergie geeft aan effecten. (HW06)

"(...) it is more like a support for the parties which all have the same interest being the green-blue network."

het is meer een ondersteuning voor de partijen die allemaal een beetje hetzelfde belang hebben dus de groen blauwe dooradering, (HW05)

"(...) if you would extend it quite far, from these parties who found each other at that time round the landscape and from there worked towards a National Landscape, to that project of biodiversity, field margins, yes that still is the core.

"But you see that other parties hitch on to that, it's not that they keep hanging around a theme like biodiversity forever, it eventually goes its own way or it unloosens itself."

(...) als je het heel ver doortrekt, is vanuit die partijen die destijds rondom dat landschap elkaar hebben gevonden van daaruit toegewerkt hebben naar het Nationaal Landschap, naar dat project van biodiversiteit, akkerranden, ja dat is nog steeds zeg maar de kern. Alleen je ziet dus andere partijen daarbij aanhaken, ik bedoel het is niet zo dat ze altijd rond zo'n thema als biodiversiteit blijven hangen, het gaat ook wel weer zijn eigen weg op of hij maakt zich los daarvan. (HW11)

everybody has a profit in it."

iedereen heeft er een plus in te halen (HW06)

"the place where you meet each other, nature and agriculture. And we had the chance to have something in common and if it wouldn't succeed over there then it wouldn't succeed anywhere (...). And I think it is crucial to have something in common on that green-blue network."

Nou die GBDA die grenst dus aan de akkers, overal, klem ertegenaan ligt dat en daar ontmoet je elkaar dus, natuur en landbouw. En daar hebben wij kans gezien om iets gezamenlijks te willen. En als het daar niet lukt, dan lukt het dus nergens en daar is het dus wel gelukt in de HW. En ik vind dat cruciaal voor de samenwerking, dus op die GBDA dat je daar iets gezamenlijks hebt. (HW04)

"The green-blue network, or the linkage between nature and agriculture, has always forced the societal parties and the governments to step out of their comfort zone or their cocoon in order to involve in the discussion and work with it in a solution oriented way. And after 11 years this becomes a sort of automatism, it gets in your system and now it's even needless to say to gather your partners in the area before starting a new process or trajectory (...)."

die de groen blauwe dooradering altijd is, die koppeling tussen natuur en landbouw, die heeft de HW en de maatschappelijke partijen en de overheden iedere keer uit hun comfortzone of uit hun cocon te komen en iedere keer de discussie aan te gaan en weer probleem of oplossingsgericht daar mee aan de gang te gaan. En door dat 11 jaar lang te doen dan wordt het een automatisme, dan komt het in je systeem dus dat heeft het wel.. Het is nu een soort van vanzelfsprekendheid om als je een nieuwe proces of traject met elkaar ingaat dat je het eerste wat je doet is je partners uit de streek bij elklaar te roepen en elkaar te informeren. (HW06)

in order to work together you need a binding factor else it is loose sand, for us this factor was the green-blue network."

Je moet altijd eenn bindende factor hebben om met elkaar te kunnen samenwerken en als dat er niet is dan hangt het als los zand aan elkaar. (HW08)

"(...) in Goeree (neighbouring island) they were not able to establish this unity of forces while for them the pressure from Rotterdam was even bigger and you see what happened. They are not only in the smoke of Rotterdam they are in the influential spheres as well (...)."

bij Goeree hebben ze dan niet die bundelign aan krachten bewerkstelligd, terwijl bij hun de druk nog groter was van Rotterdam en je ziet wat dat heeft gedaan. En ze zitten niet alleen in de rook van Rotterdam, ze zitten ook in de invloedssferen (...) (HW06)

"It strongly depends on people as well, (...) now you had organisations that did not necessarily agree with each other but you did have a group of people who said, come on guys buckle down together. And then an incredible lot is possible, and well that is for me one of the utmost important factors of success, that you invest in the preliminary phase in order to find people with such capacities."

Het hangt heel sterk op personen ook, nu had je organisaties die niet noodzakelijkerwijs met elkaar eens waren maar had je wel een groep mensen bij elkaar die zeiden, komop jongens, we gaan gezamenlijk die schouders er onder zetten. En dank an er ongelofelijk veel, nouja dat is voor mij een van de allerbelangrijkste succesfactoren dat je in zo'n proces investeerd in het voortraject mensen zoekt met dit sort capaciteiten. (HW13)

"So this unity around here, you feel Hoeksche Waarder, we don't feel ourselves Hoeksche Waard East or Hoeksche Waard West (...)."

Dus die eenheid hier, je voelt je Hoeksche Waarder, wij voelen ons neit HW Oost of HW West, dat zou je ook kunnen zeggen dat zijn ook twee verschillende (...) (HW06)

you can also see it in the future agricultural nature management where we as Hoeksche Waard are planning to establish our own collective and not with Goeree Overflakkee and Voorne-Putte, we just want a collective of the Hoeksche Waard.

En je ziet het natuurlijk ook in het toekomstig agrarisch natuurbeheer waar we als HW een eigen collectief willen gaan vormen en niet met GO en VP, we willen gewoon een Hoeksche Waardse collectief. (HW07)

"Only when it doesn't cost anything, if it generates money, if you are able to transform this biomass into money by fermentation, there will be a breakthrough. But as long as the costs are higher..."

Pas als het niet meer kost, als het dus geld oplevert, als je die biomassa te gelde kan gaan maken door bijvoorbeeld te vergisten dan zal er een doorbraak komen. Maar als het meer kost.. (HW04)

governments should not only beget the baby but also raise it and nurture it."

De meest succesvolle projecten zijn in mijn ogen de projecten waarin je als overheid het lef hebt om daar jarenlang achteraan te lopen, en ook te zorgen dat het baby niet alleen maar verwekt en geboren wordt maar dat het ook nog op eigen benen kan gaan staan. (HW13)

But indirectly the benefits are much higher, because it's about acceptance within the society, it's about your image, it's about biodiversity in general and the role that you can play within this because you are the manager of this large area. That you take on this responsibility, so those are the indirect benefits and I think they are actually quite important. This responsibility that we have, I feel it quite strongly and I am willing to continue carrying out this responsibility but we must do it with each other."

Maar indirect zijn die voordelen veel groter, want het gaat om aanvaarding binnen de maatschappij, het gaat om je imago, het gaat om biodiversiteit in het algemeen en de rol die je daarin kunt spelen omdat je beheerder bent van zo'n groot gebied. Dat je de verantwoordelijkheid ook op je neemt, dus

dat zijn de indirecte voordelen en die vind ik eigenlijk wel groot. Die verantwoordelijkheid die wij daarin hebben die voel ik ook heel zwaar dus die wil ik wel uit blijven voeren maar we moeten het wel met elkaar doen. (HW09)

"(...) but well, he experiences for himself that this number of insects provide a better pollination of the brown beans so (...) a better yield. (...) So these multilayer field margins are much more positive (...). So these still are developments, but that the field of the farmer is slowly shifting – would it then perhaps be positive – yes, that is a very slow and lingering process (...).

(...) maar goed hij ervaart zelf dat die hoeveelheid insecten toch een betere bestuiving geven van die bruine bonen dus een betere zetting, dus een betere opbrengst. (...) Dus die overjarige randen zijn veel positiever daarin dan heb je veel sneller en veel eerder bloemen dus leven om rovers te kweken zeg ik altijd maar. Dus dat zijn nog allemaal ontwikkelingen, maar dat het veld, het boerenveld een beetje aan het opschuiven zijn van zou het dan toch positief zijn, ja dat is een heel traag en langzaam proces en ja het is maar een keer in een jaar dat je oogst. (HW10)

"*Yes but we worked together with the Water Board very well from the start. (...) because the full administration resided with the Water Board and we did the executive work so our contact was just terrific."*

Ja maar wij hebben vanaf het begin heel goed met het waterschap samengewerkt, kijk want het waterschap was projectverantwoordelijke of regelingeigenaar hoe je het wilt noemen, van de akkerranden tot vorig jaar, dus de hele adminstratie berustte bij het waterschap en het uitvoerende werk deden wij dus onze contacten waren gewoon ontzettend goed. (HW07)

"Yes, you see, you build a network throughout the years (...) it is nothing more than networking. (...) We are better known outside the Hoeksche Waard than inside the Hoeksche Waard.

Ja kijk je bouwt je netwerk op in de loop van de jaren.. (...) Ja, dat is gewoon netwerken.. Dat is ontzettend belangrijk. (...) Wij zijn buiten de Hoeksche Waard af en toe bekender dan binnen de Hoeksche Waard hoor. (HW07)