

The use of social capital in Dutch farmers collectives

Strategic niche management and social capital as tool to support collectives in a transition towards nature inclusive agriculture



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Preface

This thesis is the final piece to complete the master Environment and Society Studies at the Radboud University. Within this master I have followed the track Local Environmental Change and Sustainable Cities. The subject of my thesis is the use of social capital in farmers collectives.

Growing up in a rural region and later following courses on rural development, laid the basis for this subject. Last year, I have been inspired by the courses on local change and transitions. With the ongoing discussions about the future of the Dutch agricultural sector and therefore rural regions in the Netherlands, this subject is a current theme. Even a few weeks before the completion of my thesis, farmers are still protesting in The Hague.

During the process of writing the thesis, I mostly enjoyed the conduction of the interviews. It brought me in contact with many people who were willing to participate. Making a connection through conversation is something important to me. It brought me many beautiful stories. It therefore makes me a bit sad I could not use most of the funny quotes in the thesis, for obvious reasons; they were quite off topic. Above all, it is an experience I will carry with me.

Also, meeting PhD researchers from Germany researching a similar subject, gave me a lot of energy. Talking about social capital and its appearance in the collectives, is an interesting subject because of its social and reality focused approach.

In the process of writing my thesis I have experienced great support. First, my supervisor Nowella Anyango – van Zwieten, has provided excellent supervision in the process. She offered the words to keep trust in the process and her feedback taught me how to write in a reflective manner on my own work. Thanks a lot.

Besides, I want to thank Jet, my corona-master-friend. In a year with just 5 times on campus, I had great fun collaborating online and having a lot of random conversations.

Also, Deirdre and Alwin have been of great support in writing process by discussing the design of the thesis. Besides, my roommates were always supportive, providing me coffee and a nice chat.

Last, but certainly not least, the people who stand most close to me. My boyfriend, Wouter, for the great support. And my parents, who are unconditionally supportive to me, thanks! And special thanks for my dad's input on the Frisian translations.

For the environment and coming transitions, I hope this thesis is of added value.

Enjoy reading!

Aafke

Utrecht, August 2021

Summary

With the worldwide need for environmental protection, the European Union introduced policy aiming at protecting nature and biodiversity with agri-environmental schemes. From 2016 onwards, the Netherlands designed a collective uptake of agri-environmental schemes carried out by farmers collectives. In these collectives, social capital is used in collaboration and leads to effectiveness and professionalization. Thereby, the Netherlands proposed a nature inclusive agriculture strategy, meaning that the Dutch government is aware of the necessity of the transition of the agricultural sector and actively working towards this goal.

This research aims to explore the use of social capital in the Dutch collectives in the implementation of nature inclusive agriculture, to provide recommendations that other collectives could use to design and improve their use of social capital in their transition processes. The following research question guides this research:

How can the lessons regarding the use of social capital in the Dutch collectives concerned with the implementation of nature inclusive agriculture be defined?

The research design is a qualitative case study, with semi-structured interviews. Eleven interviews have been conducted and all respondents are member or employee of a collective.

The results of the research show that three forms of social capital are used, respectively bonding, bridging, and linking. These lessons regarding bonding social capital are stay close to your members, inform your members, show the value of the organisation, and do not use the collective as a controlling body. Bridging social capital lessons are the maintenance of the interactions among the collectives, further maintenance of conversations and discussions among the collectives and to work on the organisation structure of a collective (also on an administrative level). Linking social capital lessons are to formulate a clear goal together, seek connection in the network and use them, commit to agreements, and avoid a consultancy culture. In the light of the transition in the agricultural sector the lesson is that it is a must to seek connection in the network, to be able to participate in experiments and projects.

In the development of a niche, specifically with the use of strategic niche management, collectives behave as pioneers. Collectives experiment and run projects to test nature inclusive farming practices and therefore it can be argued they are frontrunner in the field. Thereby, social capital has an added value in strategic niche management. Linking social capital can be used to align expectations in the network. Bridging social capital to bring experiments to a higher level, by connecting the results. And bonding social capital has a role in the strength of the group. Nevertheless, for experimenting, all forms of social capital may be useful. With the help of linking social capital, actor networks could be strengthened. Overall, there is high potential in successfully developing a niche with the use of social capital.

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List of acronyms

AES	Agri-environment schemes
NIA	Nature inclusive agriculture
SNM	Strategic niche management
TM	Transition management

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Introduction

The United Nations proclaimed the years 2021-2030 as the ‘Decade on Ecosystem Restoration’ (United Nations, n.d.). The pressure on rural areas increased over the last decades due to climate change, biodiversity degradation, urbanization, industrialization, and so on. The European Union (EU) aims to protect nature and biodiversity through transforming agricultural practices in Europe through policy instruments such as the European Green Deal, Common Agricultural Policy, Natura 2000 (European Commission, 2019b, 2019a; Sundseth, 2008). As part of this transition, subsidies are reserved on a European level to promote innovation in the countryside (European Network for Rural Development, 2016).

The designated subsidies within the CAP are allocated towards farmers by way of payment to farmers through agri-environment schemes (AES) (Science for Environment Policy, 2017). The focus of AES is to maintain a healthy relation between agriculture and the environment (Polman & Slangen, 2008). AES are widely researched, because of their focus on the inclusion of the environment in agricultural development and the development of a cooperation culture and social capital (Science for Environment Policy, 2017; Westerink et al., 2015). This research will focus on social capital used for cooperation in AES.

This research centres its attention on the Dutch case of AES, for several reasons. First, the Dutch limited the possibilities of requesting AES in such a way that applications for AES are only open to farmers collectives (from now on in short collectives), which are agri-environmental cooperative groups. This limitation led to the establishment of 40 collectives, across the Netherlands (Dik et al., 2021). Some were newly found in 2016 under the new AES, whereas others merged their former environmental cooperative with the new AES (Runhaar et al., 2017). Thereby the Dutch are known for their long history of successful agriculture cooperatives. Part of its successes are due to the creation of favourable regulatory conditions and the ability to commit members to the cooperative (Bijman, 2016). The strict management of AES limited to collectives resulted in an effective system. Single farmers are less likely to deliver services like biodiversity conservation, because of their plot size and therefore collaboration increases effectiveness by collective coordination of these services (Westerink, Jongeneel, et al., 2017). Therefore, its effectiveness and organisation structure can be of high interest to other countries in the EU.

Furthermore, the Netherlands experiences high societal pressure to adopt more nature inclusive agricultural practices. Since 2019 the Netherlands has been facing an alarming nitrogen crisis; the council of state determined that existing policy regarding nitrogen intensive practices was not correct and halted all new nitrogen intensive projects. Especially farmers situated closely to Natura 2000 areas are obliged to reduce their nitrogen emissions, because of its damaging effects to biodiversity in those areas (Runhaar et al., 2017). However, this leads to ‘conflicting claims on space’ (Glasbergen, 2000, p. 242). As a result of this crisis, building permits are withdrawn, and a lot of attention is drawn to nitrogen pollution by the agricultural sector. Overall, agriculture is associated with greenhouse gas emissions, habitat destruction or fragmentation, as well as pollution by nutrients and pesticides (Van der Windt & Swart, 2018). To manage and diminish nitrogen output in nature, the Ministry of Agriculture, Nature and Food Quality proposed a vision on the implementation of nature inclusive agriculture (NIA)

(Rijksoverheid, 2019). NIA aims at nature protection by ways of a positive and reciprocal feedback loop between agricultural practices and natural capital (Doorn et al., 2016).

Previous research shows that the implementation of NIA challenges local institutions to collaborate. There is a need of ‘other forms of interaction and new arrangements’, such as intensified cooperation ‘between farmers, scientists and agri-food companies’ (Runhaar, 2017, p. 341). Governing a transition towards NIA needs governance structures that allow, but also demand farmers’ participation (Runhaar, 2017). A fundamental approach is needed to be able to deal with a new system that includes NIA (Vrolijk et al., 2020). Collectives have the potential and capability to function as a bridging organisation, which connects different stakeholders such as governments and farmers, and also plays a role in ‘the co-production of knowledge’ (Prager, 2015a, p. 383). Regarding the Dutch case, this entails the role of a collective.

With societal pressure growing to change certain agricultural practices, multiple actors become involved. Governmental bodies try to comply with new regulation and policies, to bring the transition into NIA forward. For this same reason, agri-food-focussed companies experience an incentive to change, and to include NIA in their practices or products more. However, they are dependent on or influenced by the market forces (Smits et al., 2019). Therewithal, ‘it is unclear to what extent Dutch consumers are willing to pay for nature inclusive agriculture’ (Runhaar, 2017, p 343). This makes processors of dairy products reluctant to produce more nature inclusive products. Also, education is an important factor in creating awareness and engagement. It is not only the possibility to educate (future) consumers regarding their buying behaviour, but also to play a role in mainstreaming NIA amongst students at farming schools, for example (Runhaar, 2016). In short, this transition to NIA is a challenge for all actors involved. Though, especially farmers play a core role in the debate: they run their farm, need to comply with regulations and, at the same time, are driven by market forces (Runhaar, 2017). Thereby, regulations change fast, as emission of greenhouse gasses are present in the societal debate. Collectives also experience societal pressure, as there is a high demand of deliverables characterized by ‘effectiveness, efficiency and legitimacy’ (Dik et al., 2021, p. 8) in their organisation structure.

Prior research argues that these collectives have a significant influence on the governance of nature protection (Westerink, Jongeneel, et al., 2017). Thereby, the support of groups that already exist is recommended, because ‘they already possess a high level of social capital’ (Prager, 2015b, p. 63). With the establishment of new group, trust must be created by development of mutual understanding of different perspectives. Moreover, social capital in collectives can lead to a higher involvement and willingness to participate in nature protection, and thereby give guidance and support (Prager, 2015b). Social capital is seen as a collective term for the building of trust, the accessibility of support and information, common values to support the ability of the group to reach goals, gain knowledge and innovate (Westerink et al., 2020). Existing collectives can play a significant role in the implementation of NIA, by using their social capital to share their experience, knowledge, and skills (Nieuwenhuizen et al., 2014; Westerink, Opdam, et al., 2017). Thereby, developing social capital may turn out to be a prerequisite to come to collective action, as collectives play a significant role in the implementation of NIA (Westerink, Opdam, et al., 2017). Current literature has focused on the pitfalls and advantages of social capital, such as, the ability of social capital to connect to others

and the downside of competition (Nieuwenhuizen et al., 2014). Notwithstanding, it offers little knowledge on how social capital is currently used and how to capitalize on social capital, as a necessity to building a successful niche that could be mainstreamed.

The development of social capital can be used in the transition towards more nature inclusive agricultural practices, by mainstreaming NIA, so far, a niche. Niche development can be defined as the development or innovation and power of the niche of agricultural nature conservation. Whereby mainstreaming means that the current regime, focused on production in agricultural practices will make place for a different approach, including more nature protection and conservation, the nature regime. ‘Both regimes have their own institutions and actors involved that influence the development of a niche’ (Zwartkruis et al., 2020, p. 150). Different development pathways can be defined for a niche development to become mainstream. Regarding the Dutch case, it has been discussed to make NIA the new common practice, in order to reach certain sustainability goals (Smits et al., 2019).

Research aim and research question

Lack of insights on the use of social capital stands in the way of further development of social capital and thereby collective action in the needed transitions (Westerink, Opdam, et al., 2017). Therefore, research is needed to acquire knowledge on the use of social capital in existing collectives, to be able to develop NIA as niche and mainstream the practice of NIA. Collectives could use the insights on social capital to manage their professionalization towards implementing and mainstreaming NIA practices. It enables collaboration on these compulsory agricultural changes and, thereby, enable niche innovations, such as NIA, to evolve within transition theory past the current knowledge of niche development. And thereby add on transition theory by connecting social capital with niche development.

The aim of this research is to explore the use of social capital in the Dutch collectives in the implementation of NIA, to provide recommendations to other collectives using collective AES.

The following research questions will guide this research:

- How can the lessons regarding the use of social capital in the Dutch collectives concerned with the implementation of nature inclusive agriculture be defined?
 - a. How is bonding social capital used?
 - b. How is bridging social capital used?
 - c. How is linking social capital used?

This research will focus on pioneering collectives, to get insights into successful early adapters, because pioneers and early adapters have gained the most experience so far (Loorbach & Rotmans, 2010). The objective is to determine the use of social capital in farmers collectives, to be able to identify lessons from these collectives’ collaborations. These lessons can be used to support the implementation process of NIA and to develop the niche into mainstream practices. The objectives will be reached, first, by outlining and conceptualising social capital from the literature. Followed by a practical application, whereby three cases are studied in a case study which give more insight into practical outcomes.

The next section will explain the academic and societal relevance of this research. This is followed by a brief overview of the empirical debates in the field, the concept of social capital

and offering an elaboration of the relevant theories. This leads to a conceptual framework, which will be explained in detail. The method section follows, which discusses the methods used to conduct the research. Thereupon, the results section will describe in detail the findings of the analysis. Finally, the discussion of this research and a conclusion will be laid out. Also, a section with recommendations is included. The reference list and annex can be found at the end of this document.

Academic relevance

This research finds its relevance in the link between transition theory and the concept of social capital, a connection where little attention has been paid to before. It adds on the investigation how a strong collective can be built, through strengthening its social capital, to develop a niche. This is provisioned by the political aspirations for a successful regime change that enables the agricultural sector to go through a transition towards mainstreaming NIA (Runhaar, 2017; Smits et al., 2019; Van der Windt & Swart, 2018). This switch is necessary, because so far these agricultural ‘niche innovations have not yet been sufficiently developed’ (Zwartkruis et al., 2020, p. 8). A serious regime change will be needed to secure a successful implementation of NIA (Runhaar, 2017; Smits et al., 2019; Van der Windt & Swart, 2018).

Beside adding on transition theory with the connection to social capital, this research adds on insights on how a strong collective can be built with the use of social capital. This is important for several reasons. First, collectives have a substantial (and potential) role in the protection of nature, could fulfil an important role in taking the transition from niche to mainstream, and thereby, significantly contribute to a regime change (Groeneveld et al., 2019; Smits et al., 2019). Adding to this niche development, the transition does not form a directly translatable blueprint that can be transferred to transitions in other areas (Kemp et al., 2005). However, his research could offer useful insights in the application of social capital in such organisations.

Moreover, with the pressure to include nature in agricultural practices increases, more farmers are expected to participate in collectives, as to secure their subsidies (Runhaar et al., 2017). This demands strong collectives and social capital is of high importance to such an organisation (Dik et al., 2021). Therefore, increasing knowledge on the use of social capital is necessary. Moreover, the more professionalized the collective, in terms of organisational, occupational and systemic professionalization, the bigger possibly their role in mainstreaming this niche development (Dik et al., 2021).

Furthermore, collectives fulfil an important bridging function to bring people together as part of a well-developed social capital (Polman & Slangen, 2008). It is important to have a better understanding of the use of social capital, to be able to use social capital in its full potential within and between collectives, but also between collectives and other actors. With the implementation of the right regulations and governance arrangements of AES it can thereby reduce transaction costs and reinforce social capital (Krom, 2017).

In more general terms, this research finds its academic relevance in adding on insights on structural upscaling of processes for the implementation of NIA. For this mainstreaming it is crucial to study initiatives and experiments, to gain information on new business models (Vrolijk et al., 2020). Whereby in this research the focus is on collectives, which have as been found to play a substantial role in existing initiatives of experimenting (Smits et al., 2019). The

insights of this research can be used in the further implementation of NIA, by the determination of best practices. So far, the implementation of NIA takes place without a ‘uniform vision’ on what it is or should be (Vrolijk et al., 2020, p. 24). This research could offer ways to streamline this vision with the help of social capital.

Societal relevance

On a societal level, this research is relevant by giving more insights, by the investigation of the use of social capital, in how social capital can play a role in bringing people together in the transition phases. This is important because a transition to NIA will not ‘happen by itself’ (Runhaar, 2017, p. 346). This means that there is a need for leadership from within the agricultural sector, overall support from citizens, and especially political will. Participation in ‘governance arrangements for NIA should be less voluntary than they are now’ (Runhaar, 2017, p. 346–347) to achieve ecological goals.

Thereby this research is of importance to policymakers, as it could clarify the right conditions and regulations under which to implement NIA, or similar projects in the future. These insights derived from existing experience of collectives could prevent other collectives from trying to reinvent the wheel and could accelerate the implementation of NIA throughout the country. In relation to the Environment and Planning Act [Omgevingswet], a policy aiming for simplifying special development by integrating and merging several rules and regulations together, this research could prove to be of value in the use of social capital regarding collectives and give insight into the cooperation and collaboration between collectives, governmental bodies, and the participation of citizens. The Omgevingswet has an underlying goal to increase citizens’ participation in the development of public spaces (Rijksoverheid, n.d.).

As everything is connected, it could also provide added value in resolving to climate related problems, such as the biodiversity crisis. If it is possible to find new collaborations, concepts, and practices to implement NIA, it can help transition the Netherlands much further into a sustainable nation.

Background

This chapter will first discuss the background and empirical debates on transition towards nature inclusive agriculture, collaboration in this transition, the use of social capital in collectives and the concept of social capital. This gives a better understanding of the research’s embedding in the bigger picture. Secondly, the theories on transition will be explained, this will lead to the selection of the most fitting theory.

Empirical debate

Transition towards nature inclusive agriculture

Nature protection is an important theme in the development of nature including agricultural practices. Often, rural development and other (development) policies are not aligned to each other (Desjeux et al., 2015; Van der Windt & Swart, 2018). This lack of alignment can result in a trade-off between fi. the CAP and nature protection. The balance between rural development and nature protection has proven to be a precarious one (Van der Vlist, 1998).

Nature protection could be strengthened with NIA, which has an immense potential to be a solution to long awaited nature protection in agriculture. Though, the definition of NIA is not

determined yet (Runhaar, 2017). Which has as risk that this potential for nature protection is not secured yet in the concept of NIA. Nevertheless, due to societal and political pressure, NIA is seen as the new model of the Dutch agricultural sector (Doorn et al., 2016). It therefore has gained a lot of attention. The implementation of NIA requires governance arrangements and the inclusion of mainstreaming NIA in agricultural policies and regulations (Runhaar, 2017). Thereupon, it ‘requires political will, leadership from the industry’ (Runhaar, 2017, p. 342) and citizen support.

Previous research shows that to meet these requirements for the implementation of NIA, there are problems that hinder the successful implementation. For one thing, it does not offer a clear pathway to success (Smits et al., 2019). Likewise, there is no independent advisory body, which results in a dependence of farmers on commercially driven third parties (Vrolijk et al., 2020). Also, a comprehensive information structure is missing, which makes it impossible for farmers to manage the enforced changes strategically. At last, there is a significant lack in knowledge regarding circular business models (Vrolijk et al., 2020).

These problems hinder the successful implementation of NIA, this research positions itself in this debate by adding on knowledge about the use of social capital. Social capital can be of importance in the missing information structure, by supporting the information share within and among the collectives (Westerink et al., 2020). If NIA is not the final direction of the Dutch agricultural sector, the lessons drawn from this research can be used in other (agricultural) transitions.

Collaboration for transition

Collaboration plays a key role in the implementation process of NIA (Runhaar, 2017). Thereby, the actors involved need to be incentivised to make a change and contribute to this transition. Previous research shows the importance of the collaboration of farmers. Their role has been designated as important, and they should matter more in this process than they have done so far (de Snoo et al., 2013; Menconi et al., 2017).

It is argued that farmers should function as an anchor in rural development and change, because they possess the know-how on how to manage their territories, as opposed to merely functioning as information provisioners (Menconi et al., 2017). Placing the farmers as anchor in this could result in a more straightforward and optimized position for farmers in the process of transition (Ashley & Maxwell, 2002).

Nevertheless, farmers participate voluntarily in these collectives. The collectives are bound to the decentralized contracts they signed onto with local governments (provinces). Since 2016 the system of Agri-environment schemes (AES) was revised, and a bigger emphasis was laid onto cooperating groups of farmers in the management and conservation of natural environments (Runhaar et al., 2017). From a governance-perspective, these collectives can be classified as ‘public-private governance’ (Runhaar et al., 2017, p. 272). This public-private arrangement is expected to be more effective than the old system of AES, because contracts are more demanding in terms of regulating ecologically promising areas (Runhaar et al, 2017). Besides, several factors of importance can be distinguished for an effective collaboration within collectives. First, collectives are more effective when collaboration between farmers is formalised and professionalised. It is argued that professionalized collectives hold the ability to

build a local network and improve their organisation structure, which leads to an increase in quality in collective applications and the coordination of learning activities (Dik et al., 2021; Westerink, Opdam, et al., 2017). Also, the available budget, area-size, and landscape type could play a role (Dik et al., 2021). Another factor influencing the professionalization of a collective is the capability to collaborate within a network, because it requires trust and reciprocity, which are basic requirements to run such networks (Dik et al., 2021). As such, social capital may be connected to the success of networks, whereby trust and reciprocity are important factors (Patulny & Svendsen, 2007).

Secondly, a careful division of governance tasks within a collective and between parties involved can lead to higher effectiveness in the transition to NIA. The tasks can be divided among ‘governmental actors, farmers groups, and third parties’ (Westerink, Jongeneel, et al., 2017, p. 183). However, these divisions can differ per case and there is no one-size-fits-all division for more effectiveness. Nevertheless, the government stays involved in their traditional tasks (Westerink, Jongeneel, et al., 2017). Effectiveness in collectives can be increased by governments investing in building capacity, promoting exchange, educational activities, and helping collectives to formalise their professionalisation (Westerink, Jongeneel, et al., 2017). This also touches upon the concept of social capital, wherein the exchange of knowledge, information, and ideas is central.

Other ways to improve the effectiveness of collectives is by using bonus incentives. It improves farmers’ engagement in the collectives, which only works if the bonus outweighs the usual benefits of participating in an AES (Kuhfuss et al., 2016). It is also understood that a farmer benefits from the exchange between farmers in transition. For example, by experimenting and finding mutual support (Slimi et al., 2021). It is found to be important for the empowerment of the farmers in their process of transition and the development of a social movement. This research will focus on the use of social capital to improve effectiveness and professionalization. Which can be used alongside the other ways for collectives’ improvement.

Social capital in collectives

Research has shown that social networks play an important role in the management of resources (Crona, 2009). As such, collectives bring about ‘the generation, acquisition and diffusion of different types of knowledge’ (Crona, 2009, p. 367). Thereby, social capital is of importance in the management of natural resources and related agricultural practices. Former research has shown that social capital is used in collectives (Westerink et al., 2020). For example, it plays a role in the professionalization of collectives (Dik et al., 2021). Besides, developing social capital actively, ‘may be a prerequisite’ (Westerink, Opdam, et al., 2017, p. 411) for farmers to come to collective action. Nevertheless, more should be invested to safeguard the development and use of social capital (Westerink et al., 2020).

Classifying social capital

Social capital is seen as of importance to communities and individuals (Pretty, 2003). Westerink et al. (2020) defines social capital as ‘the soft qualities of networks and relationships that enable groups to accomplish things together, including trust, access to knowledge and support, shared values, and the capacity to learn and innovate as a group’ (p. 391). This definition of social capital shall be used in this research.

Social capital is described in various ways and with various distinctions in unit of study, form or interrelated dimension (Chou, 2006; Patulny & Svendsen, 2007; Pindado et al., 2018; Sechi et al., 2011). When disentangling the broad and different classifications from academic literature on social capital, it leaves us with the divisions shown in table 1.

Unit of study	Form of social capital	Interrelated dimension
Micro	Linking	Structural
Meso	Bonding	Cognitive
Macro	Bridging	Relational

Table 1. Overview of different classifications of social capital (Chou, 2006; Patulny & Svendsen, 2007; Sechi et al., 2011, Pindado et al., 2018)

The first division to take into account is the unit of study. Chou (2006) argues that the unit to be analysed can exist on three levels: micro, meso, and macro. The micro level is considered a household or person; meso a group of persons, such as a community or organisation, and the macro level is considered a territory and its included actors. This research, with its focus on collectives, will be conducted on a meso level.

The form of social capital can be divided into three categories: bonding, bridging and linking social capital (Patulny & Svendsen, 2007; Sechi et al., 2011). Bonding social capital includes ‘inward looking [networks that] tend to reinforce exclusive identities and homogeneous groups’ (Putnam, 2000, as cited in Patulny & Svendsen, 2007, p. 33). Bridging social capital consists of ‘open networks that are ‘outward looking and encompass people across diverse social cleavages’’ (Putnam, 2000, as cited in Patulny & Svendsen, 2007, p. 33). The difference between bridging and bonding social capital is shown in certain distinctive dynamics in civil society and its openness towards their community or likeminded groups. The same goes for certain dynamics in ‘small exclusive groups’, such as collectives. Without this dichotomy of social capital, it would be harder to characterise the effect of social capital in a community. The last category of social capital is so-called linking social capital. It encompasses ‘links formed by communities with economic, political, and social institutions’ (Patulny & Svendsen, 2007, p. 33). This specific form of social capital is not used on daily base. However, to include linking social capital in research can be important as well when a less everyday dynamic is subject of research. For example, when social capital is used in a bigger operational network of collectives. Using the division in bonding, bridging, and linking social capital covers a broad range of social relations and networks, a playing field in which collectives operate. The categories of bonding, bridging, and linking social capital are captured in an applicable framework by Agger & Jensen (2015) which will be elaborated on in the operationalization of the research.

Furthermore, a third distinction is made to define the inter relational dimensions of social capital, divided in structural, relational and cognitive (Pindado et al., 2018; Sechi et al., 2011). Structural dimension consists of the ‘pattern of relation between actors’ (Pindado et al., 2018, p. 22) an impersonal link between units (Ostrom, 2010). The relational dimension incorporates

the interpersonal relations between people and institutions, and the cognitive dimension refers to underlying values among the actors. This distinction has a focus on the nature of the relationships (Sechi et al., 2011). With the focus of this research on the use of social capital in collectives, only the impersonal relations between the different actors, the structural dimension, can be seen of important. With only one out of three dimensions having an added value, this distinction will not be further used in this research.

Historically, the concept of social capital has been brought to a wider attention by Ostrom (2010). She argues that social capital is important for social sciences, as it functions as the amplifier of human capital (knowledge) and physical capital (material). Without the use of social capital, knowledge and material does not hold the ability to build up the same (Ostrom, 2010). Beside its importance in social sciences, the concept has been extensively researched in economics and political science (Patulny & Svendsen, 2007). In general, the concept of social capital is seen as an ‘umbrella term’ (Sechi et al., 2011) and, as it is widely researched, understood in many different ways by as many different authors. Therefore, there are many definitions of social capital and as a concept it is ‘criticized for its lack of explanatory power’ (Bodin & Crona, 2008, p. 2764). Another critique on the usage of social capital is that it is ‘conceptualised as an object that can be crafted and manipulated by agents to obtain favourable economic and political outcomes’ (Ishihara & Pascual, 2009, p. 1553). Following this critique, Ostrom has argued ‘that human agents have the capacity to craft and invest in social capital to provide the (socially and ecologically) efficient amount of collective action’ (Ishihara & Pascual, 2009, p. 1553). In the case of collectives, positive outcomes can be shaped by the collective actions that are taken.

This research tries to understand collaboration within and between collectives and how social capital is used. Therefore, the three forms of social capital are necessary to include: bonding, bridging, and linking social capital. Former research identified two forms of social capital in collectives, so-called linking social capital and bonding social capital. Linking social capital is important when collectives grow fast and ‘adopt characteristics of a public agencies’ (Westerink et al., 2020, p. 388). Bonding social capital is important within a group of people (farmers) that are associated by their community. In this research, bridging social capital will researched as well. It can lead to ‘long-term, pro-environmental behavioural change of farmers, if farmers succeed in building up bridging social capital by receiving other regional stakeholders’ appreciation for their agri-environmental work’ (Krom, 2017, 352). The know-how of increasing social capital in collectives is investigated by Nieuwenhuizen et al. (2014) and includes the development of common goals, knowledge exchange, and connection to a network. At the same time this increase in social capital can help in the effectiveness of those collectives by enabling their network capability and creating a clear vision for NIA (Dik et al., 2021; Vrolijk et al., 2020).

Transition theories

After explaining the empirical debate and the concept of social capital, this section will draw attention to transition and its related theories. The implementation of NIA can be seen as a transition. Diving into the theories on transition, the most comprehensive is transition theory. It offers theoretical frameworks for transitions and thus tells how collectives could play a role in niche innovations.

Transition theories capture transitions as ‘a gradual process of societal change in which society or an important subsystem of society structurally changes’ (Rotmans et al. 2000, as cited in Kemp & Loorbach, 2003, p. 8). To implement NIA, the current agricultural practices need to transition into nature inclusive practices. Transition theory describes a conceptual frame, used to understand transition dynamics for the duration of the transition. The assumption is that transitions in societal systems ‘go through long periods of relative stability and optimisation ... followed by relatively short periods of radical change’ (Frantzeskaki et al., 2012, p. 24). Within transition theory many authors have described different elements of transition theory, such as transition management, transition pathways, and strategic niche management. These elements will be briefly explained in the next section.

Transition management

Transition management (TM) starts with a preconceived plan of transition (an objective), after which the necessary actions can be defined to reach said goal (Rotmans & Kemp, 2003). This goal-oriented approach tries to capture the developments from bottom-up towards a coordinated and strategic entity. It should lead to the interaction of the strategic, tactical, and operational level, wherein alignment and reinforcement is sought in the processes in these interactions. More in detail, TM consists of four phases, namely: pre-development, take-off, acceleration, and stabilization (Liu & Jensen, 2018; Rotmans et al., 2001). In these phases TM focuses on the process of experimentation, in other words learning-by-doing (Rotmans et al., 2001).

In the case of the Dutch agricultural transition to mainstreaming NIA, the objective proposed by the Ministry is set for 2030 (Rijksoverheid, 2019). From that future point in time, the transition process can be reasoned backwards. Although the process remains flexible and there is space to learn and adapt, the goal stays the same (Smits et al., 2019). For the use of TM, a precondition is that a clear objective is available.

An important critique on the use of this approach for (agricultural) transition is that a transition is not a linear process, and it is impossible to predict which niches will grow to become mainstream practice. Nonetheless, a contribution of this approach may be that at least a clear perspective is necessary in order to trigger the transition, something that has been missing so far (Smits et al., 2019; Vrolijk et al., 2020).

Transition pathways

Geels & Schot (2007) propose their theory on transition pathways as a multi-level perspective (MLP). These pathways are divided into levels, which are niche, regime, and landscape level, and these can explain how transition pathways develop and interact. The niche level is considered a ‘micro-level where radical novelties emerge’(Geels & Schot, 2007, p. 400), the regime level refers to a ‘broader community of social groups’(Geels & Schot, 2007, p. 400) with aligned activities. The landscape level revolves around ‘an exogenous environment beyond the direct influence of niche and regime actors’(Geels & Schot, 2007, p. 400). Changes at this last level may take decades.

As stated in the introduction, the transition towards mainstreaming NIA has become high priority, and is in search of new regime structures in the agricultural sector (Runhaar, 2017; Smits et al., 2019; Van der Windt & Swart, 2018). The implementation of NIA could start as a niche innovation and influence both the regime and landscape level (Geels & Schot, 2007).

An effective pathway in this transition could consist of technological substitutions, but also other transition paths are imaginable. It mostly depends on the flexibility or rigidity of current systems (regimes) and the adjustability of bigger actors. The government plays an important and highly influential role by shaping its policies and investments (Smits et al., 2019).

There are some critiques on transition pathway theory. First, what seems a regime change at one level, seems an incremental step at another level. Secondly, 'there is a tendency to treat regime transformation as a monolithic process, dominated by rational action and neglecting important differences in context' (Geels & Schot, 2007, p. 400). Lastly, a lot of focus is on technological niches in regime change, as a locus of transition. To this extent, these critiques show that the theory of transition pathways neglect certain points in the transition phases, such as the context of the development, which may be of great importance.

The critiques on MLP and transition pathways as a theory led to the formulation of another theory, which is focused more on the strategic management of the development of a niche.

Strategic niche management

Strategic niche management (SNM) approaches shaping transitions, starting from a niche level, and is seen as a bottom-up approach (Kemp et al., 2005). It experiments with new ideas and new practices, which most likely are part of a niche. The information that results from these niche experiments can be viewed as a learning process, for example, to learn from which perspective the regime can be influenced (Kemp et al., 2005).

SNM is characterized by 'the focus upon learning' and the 'concentrated effort to developed protected spaces for certain applications of a new technology' (Kemp et al., 2005, p. 7). The learning-based approach of SNM is therefore seen as a useful way to manage pilot projects. Though it is criticized that the processes of SNM lead the experiments or projects to market niches and finally to a regime shift, still lack understanding. Research shows three subprocesses which are important in the formation and creation of a niche (Caniëls & Romijn, 2008). In this the:

1. Promises of stakeholders should be matched with the expectations of the innovation and both should meet the needs of society.
2. Experimentation-based learning should enable what 'possibilities and constraints of the innovation, specific application domains, its acceptability, suitable policies to regulate or promote it, and so on' (Caniëls & Romijn, 2008, p. 248)
3. Actor networks which are co-operating are required. It is favourable if the motivations of the concerned and participating actors 'are not centred on short-term financial gains' (Caniëls & Romijn, 2008, p. 248).

In the management and development of a niche, several phases will be passed. The important steps in this development are first the choice of technology, whereby the change agents can learn and thereby make a connection between 'societal developments at a landscape level, putting pressure on the dominant regime, and room for manoeuvre at the local level' (Caniëls & Romijn, 2008, p. 252). The second step is the selection of the experiment, followed by the set-up of the experiment as a third step. In this phase it is important that policymakers take a role as enabler and catalyst, instead of only as sponsor or regulator.

The fourth and fifth step focus on up scaling and breaking down financial protection of the innovation in the niche. This phase is important for the further development of a niche into a regime. If the new technology relies on the (financial) protection, then it is probably ‘unlikely to become financially viable’ (Caniëls & Romijn, 2008, p. 257) without the protection, which means that a regime change is less likely to be accomplished. With the occurrence of (financially) dependent innovations, the network should be used to try new experiments, which are more viable. For the success or failure of an experiment, political interests often ‘play a major role in the decision process as well, making this stage a tricky one’ (Caniëls & Romijn, 2008, p. 257).

In addition to the processes described above, there are three subprocesses found which are important for the success or failure of niche management and development of an experiment:

1. Same expectations of multiple people and the expectations are (tangible) based on the results derived from the experiment(s)
2. A similar broad network (important for the social network) and alignment in this network is often sought by interactions.
3. The learning process is broad and does not solely focus on socio-economic optimalization, but alignment is sought between technical and social optimization. Thereby the learning process ‘is reflexive – there is attention for questioning underlying assumptions such as social values, and the willingness to change course if the innovation does not match these assumptions’ (Raven, 2010, p. 65)

To outline new regimes, it is important to identify existing pioneers, creatively developed practices, supportive frameworks on an institutional and financial level, and an overall support of development on all levels (Van der Windt & Swart, 2018). From this perspective, collectives could (and maybe should) adapt the role of pioneers and ‘meet... reflect, discuss, and experiment’ (Van der Windt & Swart, 2018, p. S60). Thereby the visionary role of local leaders in the relevant area holds a great potential for regime change (Caniëls & Romijn, 2008). All these activities can be connected to social capital and take a place in niche innovations. In the long run, the Dutch agricultural sector could be changed, by supporting niche development through strengthening professionalisation of collectives.

Considering the different critiques on some forms of transition theory, and with the favourable and central positioning of collectives in niche development, SNM is found to be the most fitting framework for this research. SNM could be of great added value in developing and implementing the nature inclusive agriculture vision of the Dutch government. Thereupon the characteristics of SNM on experimentation, actor network, and the alignment of expectations holds potential to find a successful synergy with social capital.

Conceptualization

This chapter will identify the concepts to include in this research, which will be combined in the conceptual model. It illustrates and integrates all the different, but relevant concepts to answer the research questions. First, an applicable framework for the concept of social capital will be presented. Secondly, the important concepts will be illustrated in the conceptual model.

Operationalization of social capital

As has been shown before, researchers have come up with several definitions of social capital (Chou, 2006; Patulny & Svendsen, 2007; Pindado et al., 2018; Sechi et al., 2011). The used division of social capital for this research is: bonding, bridging, and linking social capital. To be able to use social capital as concept in this research, it needs to be conceptualized. Since the stated research question and thereby the research design needs an applicable form of social capital, the analytical framework of Agger and Jensen (2015) was selected. This analytical framework offers an applicable framework, which is derived from an extensive literature review. Moreover, it offers a clear overview of the different functions and aspects of social capital. The framework of Agger & Jensen (2015) was complemented with the findings of Nieuwenhuizen et al., (2014) on the practical insights on the increase of social capital among collectives, linking the increasing functions with the functions given by Agger & Jensen (2015). This choice was made to ensure the applicability in the chosen context for its focus on the lessons on the use of social capital. Table 2. shows the result of combining the framework with the insights on increasing social capital (Agger & Jensen, 2015; Nieuwenhuizen et al., 2014).

Forms of social capital	Type of relation	Positive function	Negative function	Increase function
Bonding	Horizontal networks among people that are similar, e.g., family, neighbours or among people with same interests or hobbies	Shared identity	Exclusion – tend to reinforce exclusive identities in homogenous groups	Common goals development and realization Development of authenticity and togetherness
	These networks can be formal or informal	Safety and support base	Withdrawal – people cannot identify with these networks tend to exit	
	Strong ties among the members of the network	Access to resources in the network		
Bridging	Horizontal networks that are different from each other, e.g., acquaintances, links to other interest groups or communities	New ideas and information and access to resources of other networks	Stalemate and risk of group conflict	Interaction and meetings Knowledge and experience exchange
	These networks can be formal or informal	Creation of reciprocity and trust among peripheral networks locally	Gossip and hostility	
	Weak ties among the members of the network	Enables “collective action capabilities” across distinct networks	Risk at enforcing already sedimented prejudgements among local actors	

Linking	Vertical connections to people with power outside the community, e.g., representatives from formal institutions of the state of business	Access to external resources	Formal sanctions	Connecting different groups, regionally and locally
		Creation of reciprocity and trust among actors and representatives from formal institutions	Domination of projects	Embedding local or small groups in bigger networks

Table 2. Analytical framework (p. 2051) of Agger and Jensen (2015) supplemented with increasing social capital factors (p. 3) by Nieuwenhuizen et al., (2014)

Conceptual model

While table 2. conceptualizes social capital, figure 1. shows how these forms of social capital are linked to the type of relation within a collective, between collectives, or in the bigger network the collective is embedded in. The collectives within these networks, with support of this network, could implement NIA. Social capital can lead to a strengthened collaboration and increases willingness for participation and involvement in nature protection and therefore has a potential in the implementation of NIA (Prager, 2015b). Also, the ability to innovate can be increased (Westerink et al., 2020). Consequently, the use of social capital can lead to more collective action, which can be beneficial to the implementation of NIA. The use of social capital by the actors, will affect the processes of SNM and the related (sub)processes.

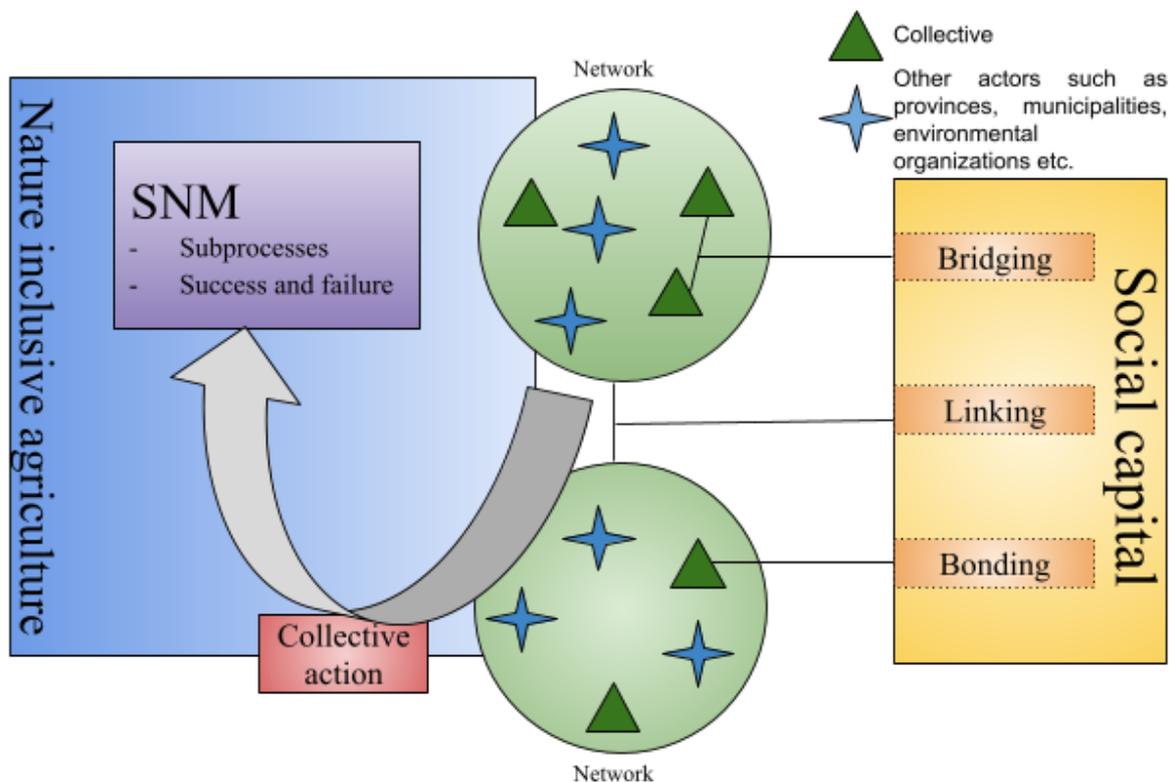


Figure 1. Conceptual model

Methodology

This chapter will explain which methods are used to come to the results of this research. First the research philosophy and research design will be explained. Followed by the methods which explains the choices made in the conduction of this research.

Research philosophy

Academic research is always influenced by the way a researcher perceives the world and how it will be studied. Questioning one's own biases is considered as the research philosophy (Guba & Lincoln, 1994; Moon & Blackman, 2014; Moses & Knutsen, 2012). Within research philosophy several paradigms are formulated and answer ontological, epistemological, and methodological questions.

Researching the use of social capital, it can be considered as an attempt at reconstructing a well-established construction that people hold. Therefore, it can be placed in a constructivist paradigm. From an ontological point of view, this can be considered as a relativist approach, which assumes social realities as product of human intellect (Guba & Lincoln, 1994). As such, the use of social capital can be seen as a product this human intellect (Ostrom, 2010). The epistemology of constructivism is a transactional/subjectivist assumption that sees knowledge as created in interaction among investigators and respondents (Guba & Lincoln, 1994). Social capital does not exist outside interactions. In terms of methodology, constructivism aims at a hermeneutic/dialectic methodology aimed at the reconstruction of previously held constructions (Guba & Lincoln, 1994). In this research social capital is interpreted as social construct between people.

Research design

To reconstruct how social capital has been or could be used in the transition towards NIA in the Dutch context, qualitative research was conducted. A qualitative approach examines the context (Van Thiel, 2014). Therefore, as the use of social capital is a context-based practice, a qualitative approach is suitable.

Within this qualitative approach a case study research design was selected as appropriate method because of its ability to offer a holistic perspective on transitions, which are inherently complex situations (Harrison et al., 2017; Yin, 2013). 'A case study allows the researcher to gather and analyse data on complex and non-numeric variables' (Van Thiel, 2014, p. 35). This data can be interpreted afterwards. In this research a case study is appropriate for its explorative ability to investigate the common use of social capital. Thereby, a case study takes place in a real-life setting, which means that the case is a demarcated case (Van Thiel, 2014). In this case the Dutch collectives. Also, a case study holds an applied nature and is an in-depth method (Van Thiel, 2014). This research tends to find a solution for a societal issue, in this case the transition towards NIA and a detailed answer on how social capital is used. With the explorative nature of a case study, a 'how' question fits the research (Harrison et al., 2017).

Accordingly, the qualitative research was carried out by the conduction of interviews. The interviews were designed to be semi-structured, which allowed for the respondent and interviewer to have a more open conversation (Clifford et al., 2010). Semi-structured interviews find their basis in a topic list to guide the interview (Van Thiel, 2014).

With the conduction of the interviews and the contextualization and substantiation of the related concepts found in academic literature, this research made use of primary and secondary data sources, so called triangulation (Van Thiel, 2014). Triangulation was used by gathering knowledge on the subject and related concepts of earlier studies, combined with knowledge gathered in practice.

Methods

Interview guide and topic list

To guide the semi-structured interviews an interview guide and topic list were developed. The guide consisted of an outline of the structure of the interview and a list of important points to mention, including the request for recording (Van Thiel, 2014).

The topic list included questions per topic and suggestions to get more in-depth information to lead the semi-structured interviews. Thereby using a topic list supports prevents from using vague and ambiguous terms in the interviews and therefore increases the practical aim (Clifford et al., 2010). The operationalized concepts of social capital, found in table 2, were used as leading in the development of the interview guide, to assure all topics were covered. It therefore approaches social capital as sensitized concept (Van Thiel, 2014).

Both the interview guide and the topic list were written in English first, so they could be peer reviewed. Afterwards they were translated to Dutch for the use in the interviews. The final interview guide and topic list can be found in Appendix A.

Case selection and description

The unit of study for this research is Dutch collectives. The case selection is based on criteria, to prevent selection bias (Seawright & Gerring, 2008). The cases were selected with the aim of understanding the broader perspective which is the ‘strongest basis for generalization’ (Seawright & Gerring, 2008, p. 298). Therefore, the following criteria were determined and met by collectives to be included in this research. First, the collectives should be located in the Netherlands; secondly, hold the ability to function as pioneer in the implementation of NIA; lastly operating in or close to a designated transition area. This last criterion was seen as important, because of societal pressure for a transition in these areas.

The final case selection led to the identification of three collectives, one in the province of Drenthe (Agrarische Natuur Drenthe) and two in Friesland (Coöperatieve Vereniging Súdwestkust and Noardlike Fryske Wâlden), which were already operational (some in a slightly different form from being a collective) before 2016. This is of importance because social capital takes time to build up (Nieuwenhuizen et al., 2014). Thereupon these collectives are potentially more experienced in their practices and to function as pioneer (Van der Windt & Swart, 2018). In these provinces a regional deal was made to stimulate nature inclusive agriculture and protect precarious nature areas (<https://www.regiodealnatuurinclusievelandbouw.nl/>). This supports the criterion that the collectives operate in a transition area. The choice for cases with similar characteristics was made to allow for a better and more in-depth understanding of these collectives (Seawright & Gerring, 2008).

The necessary contacts were arranged in accordance with the umbrella organisation of the collectives, BoerenNatuur, through an affiliated researcher from Wageningen University, and

by snowballing the respondents. Within the case selection, eleven participants were approached and participated in an interview. These participants were all connect to the collective as member, employee, or board member. As agreed with the respondents they remained anonymous. The list of conducted interviews can be found in appendix B.

Data collection

The interviews were held in Dutch as this was the native language of the respondents. This allowed for a more natural conversation with the respondents (Clifford et al., 2010). During the interviews, an audio recording device was utilised to record the interview, which the respondents all agreed to in advance. The interviews were conducted via Zoom and lasted about an hour. Recording was needed for a more detailed analysis (Van Thiel, 2014). The interviews were transcribed and analysed, therefore only the audio file of the recording was used. The recordings were deleted after completion of the research. Both, recording permission and deleting the documents was needed to secure on the agreed consent of participation of the respondents (Van Thiel, 2014).

When during the interviews no new information was shared, and thus the saturation point was reached, the interviews were concluded (Clifford et al., 2010). The saturation point of this research was reached after conducting eleven interviews. After completing six interviews the given information turned slightly similar, but it was seen as important to see whether different regions or different collectives would give different input on the subject.

Due to the restrictions regarding the Covid-19 pandemic, the interviews were conducted online. Data collection has taken place at the end of a lockdown, and it would be a risk for the researcher and respondent to meet on site.

Data analysis

Before the analysis of the data took place, the recordings of the interviews were transcribed in several rounds. The first phase of transcription was done by using the transcription tool of Microsoft Word Online, followed by two rounds of adjusting the transcripts manually for correction and accuracy. The interviews have been kept as verbatim as possible, to include all personal speech styles and characteristics (Van Thiel, 2014). However, as the transcripts needed to be comprehensible as well, some quirks, double words and cases of stutter were edited out.

The analysis was done using Atlas.ti, applying inductive coding in Dutch. An inductive method of analysing data is often used for the exploration of concepts (Van Thiel, 2014). It allows in this research to find how social capital is used. The first step in the coding process led to the generation of multiple codes, which have been specified during the analysis (Van Thiel, 2014). Which means, that the first interview has been used as basis for the analysis of the other interviews. This process has been ‘repeated until no new codes’ (Van Thiel, 2014, p. 146) were found, making use of an ‘exhaustive coding scheme’ (Van Thiel, 2014, p. 146). To avoid mistakes or differences in interpretations, this step was repeated.

Secondly, a search for patterns and themes was done, called axial coding (Van Thiel, 2014). With the use of colours overarching themes were found. Most of the themes found a connection to the three forms of social capital and its functions as described in table 2. A next round of analysis, ordering codes, has led to an alignment of the analysis to avoid unnecessary themes and codes (Van Thiel, 2014).

The overarching themes led to a final division of codes in the following five categories: bonding social capital, bridging social capital, linking social capital, characteristics of collectives, and transition. If necessary for multiple categories, codes were assigned to more than one category. With the use of the *query tool* and the *co-oc table*, two analysis tools of Atlas.ti, combinations of the used terms were found. It enabled to find recommendations on specific topics.

Reporting the results

The analysis led to codes, representing a term or theme related to social capital. The frequency of occurrence showed the importance for these terms and themes for the Dutch case. This frequency is used to structure the results. The frequency of terms plus the categories derived from the analysis was used as guideline, because it structures the reality of existing practices. Which is based on the theoretical constructs underlying the analysis, which forms a logical basis to describe the results (Van Thiel, 2014). The categories of social capital were described, including the lessons on the specific form of social capital.

The derived codes from the analysis were set between quotation marks to take along the reader. Moreover, to clarify how social capital is used, the term derived from the analysis was supported by quotes derived from the interviews and connected to the definition or function of social capital, to show how social capital occurred. The essential elements of the research were explained and supported and illustrated by quotes, to avoid ‘unnecessary complexity’ (Braun & Clarke, 2006, p. 93). The quotes were cited with the transcript number including the quotation number. Paraphrased quotes were denoted with solely the transcript number. The results were summarized in a table per category, wherein the function of the related form of social capital was linked with the found term or theme including the suggestions and practical advice given. Also, the perception of the specific forms of social capital were shortly described in the result section, to give a better insight in how social capital is perceived and what it may mean for the use of social capital.

To prevent for an information overload, not all terms derived from the analysis are included in the result section. The criteria used for this choice is that the data should demonstrate prevalence to the research themes.

The respondents gave their informed consent to publish the results, albeit anonymous (Van Thiel, 2014). To keep the text readable the quotes have been translated, in some instances whenever necessary, in a freer way, but always with great consideration to the intended message. In case the original quote was more powerful, the Dutch quotes were included.

Validity and reliability

Concerning the validity and reliability, this section will explain some choices made. Qualitative research can lack transparency since it captures subjectivities in the bias of the research and in the data collection (Denscombe, 2003). This will be addressed by giving transparency about the taken steps in the next section.

Reliability is the consistency and the accuracy of what is measured. It is important to be able to repeat the research and thereby be able to follow the same methods. And to prevent and minimize mistakes and bias of the researcher (Van Thiel, 2014). The reliability of this research was increased by, first, the operationalization of concepts. The choices made for the selection

of theory and social capital were explained, which gives the possibility to repeat the research. Thereupon the selection of cases is based on criteria based on theoretical conditions and therefore increases the reliability (Van Thiel, 2014). Moreover, the case selection is based on a theoretical background of case study design research (Seawright & Gerring, 2008; Yin, 2013).

Thereupon, working in the interviews with an interview guide and topic list, which has been peer reviewed first, also increases the reliability. It leads to a smaller chance of research bias; as it guides the interviews and prevents distraction from the subject (Van Thiel, 2014). By the selection and use of multiple cases the research' reliability has increased. (Van Thiel, 2014). It provided multiple perspectives on the same topic: the use of social capital in collectives. With adding the interview guide, topic list and list of interviewees in the appendix transparency was created and it allows to repeat the research.

Furthermore, reliability of the research is demonstrated by the creation of transparency in the documentation of the taken steps. Within the process of data collection, analysis and reporting, including the transcription, it is attempted to treat all data the same way, which leads to less ambiguity in the results (Van Thiel, 2014). Finding a connection with the operationalized forms of social capital in table 2. increases the reliability, by giving a framework for the researchers' interpretation of the results.

In the light of validity of the research, which occurs in two forms, internal and external, internal validity is presented by the tools used in terms of the methodology. For internal validity, this research collected primary data, based on a literature review of the subject, and used secondary data for the contextualization. External validity focusses on how the research is generalizable to other cases (Van Thiel, 2014). Given the similar organisation structure and context, the societal debates, and current affairs in the Dutch agricultural sector, of other collectives, the results are external valid. This is also supported by the case selection based on criteria, aiming to produce generalizable results.

Results

This chapter presents the results of the analysis. The conducted and analysed interviews give the opportunity to get a better understanding of the use of social capital in collectives in the Dutch context. It also provides possible lessons which can be drawn from the use of social capital in collectives. Thereby, the results will offer the opportunity to find an answer to the research question.

The analysis has led to a differentiation of the different terms related to the different forms of social capital, the transition, and collectives. This section will draw attention to the most important – in other words frequent - terms derived from the analysis. It describes the themes and terms mostly used in the interviews, and how these can be related to the concept of social capital and its usage for social capital. The results for the different forms of social capital will be summarized per section. It shows for which form of social capital the found use of social capital is important, which function of social capital it relates to (in correspondence with table 2.), what term is found, what recommendations (suggested or not suggested) and practical advice are given.

This section will be structured as follows: first the terms that are most frequent, regardless of the analysis categories (bonding, bridging, linking, characteristics of collectives, and transition), will be elaborated. Then the terms linked particularly to bonding social capital will be explained, and the lessons that can be drawn from this category. Thereupon, the terms used in bridging social capital and the lessons derived will be described. After that the focus is on the terms of linking social capital and lessons that can be drawn from that. Some findings do not have a direct relation to social capital but do say a lot about the use of social capital or the context of this theme. These topics and debates will also be presented, and it will be described what it means for the use of social capital.

General terms related to social capital

Some of the terms derived from the analysis are not limited to one category of social capital but turned out to surface in all forms of social capital and found to be inherently important for the characteristics of a collective and in the overall transition to NIA.

Form of social capital	Function of social capital	Used term
Bonding, bridging, and linking	Positive and negative: access to knowledge Increase: goals realization, interaction and meetings, knowledge, and experience exchange, connecting groups	Exchange of ideas
	Positive and negative: access to knowledge Increase: goals realization, interaction and meetings, knowledge, and experience exchange, connecting groups	Exchange of knowledge
	Positive and negative: access to knowledge Increase: goals realization, interaction and meetings, knowledge, and experience exchange, connecting groups	Informing

Table 3. Most used terms of social capital, with the functions of social capital (Agger & Jensen, 2015, p. 2051; Nieuwenhuizen et al., 2014, p. 3)

The most frequently mentioned term is ‘exchange of ideas’. This term refers to sharing general ideas in meetings within and among collectives, for example, regarding the collective, the implementation of NIA or the challenges the Dutch agricultural sector is facing. It is argued that it is important for the farmers, and members of the collectives, to have ‘meetings, field excursions’ (1:34). There is a need for a better exchange of ideas on practical examples, in such a way that the ideas focus on applicable insights (2, 3 & 6). It is therefore found to be important to learn from each other and therefore ‘bring farmers together to collaborate on certain themes’ (4:7). Supporting ‘farmers learn from farmers’ (11:6 and 6:17) is a way to spread new and experimental ideas on topics like transitions.

The second most referenced term is the ‘exchange of knowledge’, which is a term that closely relates to exchange of ideas. The assumed difference is that exchanging knowledge focusses on the exchange of specific know-how, in a reliable context, preferably based on scientific findings and debates. Specifically, the sharing of knowledge is done through meetings, lectures by scientists, ‘but also people from the field, to discuss it’ (5:3). For a lot of farmers sharing knowledge is related to practical know-how.

For the third most frequent term, ‘informing’, respondents point out that the act of informing is important in sharing both ideas as well as knowledge. Although, informing is understood as the

more active form of providing information towards one another. It also plays a key role in initiating the process of sharing, and to establish connections between people. Most information is shared through newsletters, meetings, and excursions. Thereby collectives try to ‘develop knowledge themselves’ (4:18) about nature management and conservation which is used to discuss with other collectives.

For all categories of social capital, the exchange of ideas, knowledge and informing stakeholders/actors in the network, are key. More specific, all three terms do connect with the access to resources in the different networks, important for all forms of social capital, as shown in table 3. It thereby increases social capital by the realization of goals, meeting up, interaction, sharing knowledge and experiences and by connecting the different groups (Nieuwenhuizen et al., 2014). Moreover, it can be explained by the focus of social capital is dedicated to the ‘access to knowledge and support’ (Westerink et al., 2020, p. 391), and therefore, relates to ‘the capacity to learn and innovate as a group’ (Westerink et al., 2020, p. 391), which also gives opportunities to accomplish goals together. It therefore can be argued that the results derived from the analysis and described terms are closely related to the definition of social capital. It can be stated that social capital is used within and between the collectives. It is a logical consequence of questioning social capital, that the most frequent terms lie close to the definition. Given that these terms are often found in this research, it can be argued that there is a certain need for knowledge and ideas exchange even as informing for the topics faced by the members of the collectives. The lessons on these three terms are included in the lessons given for the specific forms of social capital, because they hold a close relation to their findings, since these findings are shared among the categories.

Bonding social capital

Bonding social capital focusses on the social capital within a collective. The people concerned with this form of social capital are mainly members of the collective, such as farmers or citizens, or staff members of the collective. Besides ‘exchange of ideas’, ‘exchange of knowledge’, and ‘informing’, are of importance for bridging social capital, the next sections will elaborate on terms specifically important for this category.

The definition of bonding social capital is a network which is inward-looking, in support of its own community (Patulny & Svendsen, 2007). The terms discussed relate to this definition, by determining the link between a term and the functions of social capital. The results for bonding social capital, its embeddedness and the derived lessons are summarized in table 4.

Form of social capital	Function of social capital	Used term	Suggested	Not suggested	Practical advice
Bonding	Positive: shared identity, access to resources Increase: togetherness	Direct contact	Stay close, warm approach personal contact, good organisation structure, assemble meetings per region	Impersonal contact e.g., email and newsletters only, do not become an anonymous entity	Organize meetings, keep lines short
	Positive: shared identity	Involvement	Warm approach,	Polarization	Organize study

	Increase: common goals development and realization		informing, involve not only farmers, regional approach		groups – coordinated informing members nationally
	Positive: safety and support, shared identity Increase: development of authenticity and togetherness	Togetherness	-	Stay open and honest	-
	Increase: common goals development and realization	Common goal	Share information	Do not reinvent the wheel	-
	Positive: safety and support	Taking on a role	Do not punish mistakes	-	-
	Positive: shared identity	Close by	Stay close	-	-
	Positive: Safety and support Negative: withdrawal	Trust between members	-	Do not tell people how they should do it, do not use collective as monitoring and controlling body	-
	Positive: shared identity	Pioneering	Seek frontrunners		Approach respected people, let the frontrunners set examples

Table 4. Summary of results for bonding social capital, with the functions of social capital (Agger & Jensen, 2015, p. 2051; Nieuwenhuizen et al., 2014, p. 3)

Embeddedness of bonding social capital

The first and most important term related to bonding social capital derived from the analysis is ‘direct contact’ and is manifested in having ‘short lines with each other’ (5:36). It is pointed out by all respondents as an important way to manage interaction with each other and it is used to maintain the inward looking characteristic of bonding social capital. Direct contact is often used in sharing knowledge and ideas by bringing members together in meetings or field visits (1&2). This term is seen as important by the respondents to ‘see the people, occasionally’ (3:12). It also noted to be useful to assemble the farmers per region, to keep the ‘travel distances to a minimum’ (2:19). This is also seen as a convenient way of getting to know your neighbours and stay in direct contact with people in the area. Besides, meetings can also serve as an opportunity to bring people in contact with each other to learn from each other. ‘Just give the farmer close by a call and see how he manages stuff’ (11:18). To increase direct contact, respondents are all positive about the organisation of meetings. Some prefer ‘[avonden met patat en bier] – fries and beer-evenings’ (11:19) to meet people in person in a relaxed way to exchange ideas and discuss their farming practices and ideas on (sustainable) farming in an informal setting. This term finds a connection to a shared identity as positive function of bonding social capital (Agger & Jensen, 2015). Moreover, this way of using social capital can be of great leverage in the agricultural transition because it offers access to resources in the

network. Direct contact can also be related to the increasing function of the use of social capital leading to the development of authenticity and togetherness (Nieuwenhuizen et al., 2014).

Meetings between members also benefit the notion of ‘involvement’, found to be the second most frequent term for bonding social capital. It strengthens the bonding between the members and therefore it helps to ‘directly get answers and that leads to involvement’ (6:52). To involve members and make sure they stand behind the vision of the collectives (1:18). This has as positive function to develop the collective by increasing social capital with the realization and development of common goals. A regional oriented approach increases the involvement of farmers as well because it brings them closer to each other, and their work in the region is a fruitful start of conversation (6). It thereby can lead to a shared identity as positive function of bonding social capital as shown in table 2.

Involvement has a strong relation to feelings of ‘togetherness’ and is the third most frequent term of bonding social capital. In the interviews the word ‘together’ is mentioned repeatedly. It is a sign of collaboration, but also relates to involvement, having a shared goal and feeling supported (2, 6 &7). In other words, by ‘having the feeling that you are not in it alone’ (11:18). The development of togetherness is seen by Nieuwenhuizen et al., (2014) as way to increase social capital. Moreover, it is connected to a safety and support base, as positive function. It is used by engaging people in collaborations for multiple purposes, such as collectively buying seeds, but also by sharing their ideas together (1). To support this collaboration, it is once again, important to bring people together physically. It is acknowledged that the Covid-19 pandemic and the resulting measures have influenced the feeling of togetherness, which decreased. Nevertheless, the farmers still share the same goals in the field. However, considering the feelings of togetherness, it may be important in the future to actively start and evaluate the projects and organise in-person meetings, to restore that feeling of doing it together (4). It is said that ‘together you are strong’ (6:55) and ‘alone you can go faster, but together you achieve much more’ (8:35). Another benefit of collaboration is that it allows to experiment with new measures and share the results in a network structure. It enables you ‘to share ideas and have a look at where others are at’ (11:18). The development of the feeling of authenticity and togetherness may influence the development and realization of common goals and thereby play a role in the transition (Nieuwenhuizen et al., 2014).

The fourth term found important in the category of bonding social capital is having a ‘common goal’. It is an important aspect of increasing social capital (Nieuwenhuizen et al., 2014). It is used by the propagation of the general goal of a collective, which is the coordination of the management of landscape and nature management, for which members are compensated (6). However, goals related to a transition in agriculture are in development and by some respondents felt as common goal already.

Another term of bonding social capital mentioned is ‘taking on a role’. The respondents pointed out the need of regional coordinators and the collectives’ board taking a leading role, in the changes in the agricultural sector (2). It therefore uses social capital by bringing members together. Which can be related to the positive function of social capital, by giving safety and support. The use of this term of bonding social capital is important for their inward-looking

capacity and thereby the uptake of bonding social capital. Offering safety and support in the network can be of importance in the transition for the maintenance of a strong network.

Other frequent terms, derived from the analysis, are ‘close by’, ‘trust between members’, and ‘pioneering’. First, the respondents point out that it is helpful to have cases to study ‘close by’, because ‘you can take people in their own environment there’ (2:30). Which can be related to identification with their own environment – in other words a search for a shared identity. Secondly, ‘trust between members’ is found to be important. Respondents recognize the feeling of trust between members: ‘I think it is a bit of a characteristic of being a cooperative’ (4:31). It is important to mention that the frailty of trust is recognized as well in the collectives: ‘[vertrouwen komt te voet en gaat te paard hè!?!] - trust comes by feet, but leaves by horse, right!?’ (7:17). The negative function of social capital related to this term is withdrawal from the network, which makes building safety, as positive function, important to build a safe network in which the transition faced, can be collaborated on. Lastly, for the term of ‘pioneering’ it is interesting that almost all interviewed collectives consider themselves as pioneers in their field. ‘Of course, we are a frontrunner in the Netherlands’ (7:13) and ‘we are a frontrunner, and the other collectives make more use of us’ (6:24). A good approach to become a frontrunner is ‘to seek people who want to take the lead, who dare things and can afford to do things, that also has an appealing factor’ (10:28). Pioneering can be associated with the feeling of togetherness, bind members and thereby the involvement of the members. It therefore is important in the development of a shared identity. It is also of great importance in transition theory (Loorbach & Rotmans, 2010).

To summarise, it can be said that bonding social capital is used by bringing members closer together. This is done by sharing information, creating the feeling of togetherness, involvement, having a shared goal, create the opportunity to discuss new ideas and political issues debated within the collectives and therefore strengthen the inward-looking community. This serves mainly the function of creating a shared identity and create a support and safety basis, as summarized in table 4.

The interviewed respondents were all quite positive about their connectedness to the collective and the connection between the members of the collective. In their view, other collectives focussed less attention to social capital and involvement of members and focussed on providing the compensation of nature management to the farmers (9). It is perceived as important to bind members to the collective, to form a connected group (1). Trust is perceived as highly important for the connectedness of the group, to experiment in projects together and share knowledge. Respondents see their collaboration as trustful. Especially compared to others: ‘in other regions, it is every man for himself’ (5:20). When questioned why they trust each other or how to improve trust, the respondents answered that the structure of the collective’s organisation should provide enough moments to bring people together and discuss different topics. Therefore, the bonding social capital used is perceived as present and needed.

The lessons on bonding social capital

This section will draw attention to recommendations for bonding social capital given by the respondents. The interviews led to recommendations by asking for lessons learned, but the

respondents also brought up recommendations by themselves. In table 4. the recommendations are described in terms of suggested or not suggested.

First, an important recommendation is to stay close to the members (9 & 6), also called a warm approach to the farmers (3). This personal contact is important for all aspects of social capital, and are also a cause for increase of social capital (Nieuwenhuizen et al., 2014). Secondly, informing the members is seen as the way to involve the members. There is a wish for more study groups, where members can talk to each other and given each other recommendations (7). '[Je hebt niet altijd de waarheid zelf in pacht] - you do not always have the truth' (9:25), so it is important to listen and talk to each other. One respondent recommended the informing of members to be coordinated nationally (11). Both lessons relate to the development of a safety and support basis and enables the access to resources, which is thereby perceived as important as to form a connected group.

Thirdly, the last important recommendation given for the category of bonding social capital was to not only involve farmers but also citizens and governmental actors. Without this involvement, it is hard to realize certain projects (7). Moreover, focus on the search for people who want to be frontrunners, so they can set an example and stimulate others to follow suit within the collective (10). Though, this recommendation holds a close relation to linking social capital and will be emphasized in that section.

It is found as counterproductive for the use bonding social capital to use the collective as a monitoring and controlling body (1). It can be the negative function of social capital and lead to withdrawal. It relates to the recommendation given 'do not punish mistakes' (8:55). Other recommendations that were frequently made were 'do not polarize' (1:68), 'do not become impersonal' (4:25), 'do not become a bank or anonymous entity' (1:58) and 'stay open and honest' (4:35) which can be related to a decrease in social capital. At the same time, it was found important to 'not tell people how they should do it (3, 9 & 10). Although, it is also important to note that people should not reinvent the wheel, so information should be shared, nor should the process be too slow, because people will grow weary and leave the transition process (7).

It is noteworthy that when voicing their recommendations, the respondents often turned away from the collective with their comments. Most recommendations involved other parties or entities besides the collective (or its members). The bigger challenge may lie in carrying out the other forms of social capital. The next sections will offer an insight into if and how these forms of social capital are established.

Bridging social capital

This section focusses on the important terms found in relation to bridging social capital. Bridging social capital is important for the support of the network between the collectives. In theoretical terms, bridging social capital focusses on the outward looking characteristics of a network and tries to bridge between different social boundaries (Patulny & Svendsen, 2007). Which, in the case of collectives, can be seen as bridging between different collectives as similar groups of people and entities. Again, the exchange of knowledge and ideas are seen as the most important terms, as explained at the top of the results chapter.

The results of the embeddedness of bridging social capital and the derived lessons are summarized in table 5.

Form of social capital	Function of social capital	Used term	Suggested	Not suggested	Practical advice
Bridging	Positive: new ideas and information and access to resources of other networks, creation of reciprocity and trust among peripheral networks locally, Enables collective action capabilities across distinct networks Increase: interaction and meetings	Interactions and meetings with other collectives	Meeting up, maintain the interactions between collectives	-	Start a collective deliberation
	Positive: new ideas and information and access to resources of other networks, creation of reciprocity and trust among peripheral networks locally, enables collective action capabilities across distinct networks	Umbrella organisation	Involvement in activities BoerenNatuur	-	Join meetings
	Positive: new ideas and information and access to resources of other networks, creation of reciprocity and trust among peripheral networks locally, enables collective action capabilities across distinct networks	Organisation structure	Reserve time for these themes	-	-
	Positive: creation of reciprocity and trust among peripheral networks locally Negative: gossip and hostility, stalemate, and risk of group conflict	Interests collide	Meeting up	-	-

Table 5. Summary of results for bridging social capital, with the functions of social capital (Agger & Jensen, 2015, p. 2051; Nieuwenhuizen et al., 2014, p. 3)

Embeddedness of bridging social capital

First, it is pointed out that the ‘interactions and meetings with other collectives’ are found to be important and take place on a regular basis. It is related to the function of increasing bridging social capital (Nieuwenhuizen et al., 2014). Meetings and interactions are not often perceived as the primary source of information, nonetheless some good contacts exist with the other

collectives (in the region). Interactions and meetings are used for ‘hearing from other collectives how they manage things. For them it is also important to hear what we do’ (9:25). It supports the positive function of bridging social capital by sharing of ‘new ideas and information and access to resources of other networks’ (Agger & Jensen, 2015, p. 2051). The specific knowledge and ideas the collectives exchange is mainly meadow bird population management; by some seen as the most primary goal of the collectives (2). In the province of Friesland, the interactions and meetings are organized slightly different, because the seven collectives in this province are gathered in a so-called [Collectieven Beried]– Frisian for collective deliberation. Bridging social capital therefore used by representing a united and collective voice to the province and is used to streamline ideas on certain topics, before discussing it with governmental agencies. It creates reciprocity and trust in the network and holds the ability to come to collective action.

The second most frequent term found for bridging social capital is ‘umbrella organisation’. This means in the case of the collectives the organisation BoerenNatuur. Some respondents have mentioned that their day-to-day activities sometimes get in the way of sharing and meeting with other collectives ‘because it is often busy at the office of a collective’ (3:36). BoerenNatuur facilitates to share ideas, by appointing another collective as buddy ‘to share ideas’ (3:36). The coordination of this buddy system by BoerenNatuur encourages to make time for this kind of exchange. The respondents often pointed out the important role of the umbrella organisation. The respondents see it as important, so ‘to make certain topics discussable and provide the opportunity to ask questions’ (4:36) which is coordinated nationally. It provides a base for interactions, and it is a supportive factor to the shared network structure. The umbrella organisation plays a role in the three positive functions of bridging social capital as shown in table 2.

The ‘organisation structure’ is as third seen as important to the use of bridging social capital. The way a collective is organised makes a difference on an administrative level by a ‘mission, vision, strategy, and how you work with these themes’ (3:35). Information exchange activities on this topic are organized and supported by BoerenNatuur and have a function to carry and enable a good functioning network. It thereby makes use of bridging social capital and all its positive functions. The vision and mission of a collective is important to clarify and to underline ‘why you do something, with whom you are doing this and what you want to achieve with this’ (8:25) and therefore also support bonding social capital. There are differences between the organisation structures of the collectives. By which ‘some collectives are well organized’ (11:13). This results in different project branches such as offices with staff members (11). It is considered important to implement strategic organisational structures (11).

With trust being a positive function of social capital for a successful collaboration between collectives (Nieuwenhuizen et al., 2014) it is interesting that the fourth frequent mentioned term is ‘interests collide’. This is experienced as difficult and stands in the way of collaboration. It relates to the negative function of bridging social capital and has the risk of group conflict and gossip and hostility. The different interests are shaped by the feelings of concurrence on a financial level (3). In other words: ‘[de poet verdelen] - when the money needs to be divided’ (9:19) resistance between the collectives takes over and solidarity decreases. This can be interpreted as a decrease in bridging social capital.

Comparing findings on bridging social capital to the findings of bonding social capital, it is notable that the involvement of farmers by collectives assists in the process of bringing people together, to build on themes together, and uniting the theme of agricultural and nature management towards nature inclusive agriculture.

Bridging social capital is not always perceived as important by the respondents, because not all knowledge or experiences are useful to all regions. For example, the province of Limburg has a landscape structure that differs from Friesland, and as such demand other focus points (10). Feelings of rivalry sometimes lead collectives to keeping knowledge for themselves, which has implications regarding the trust between collectives. Certain differences are experienced between the collectives about which some say, ‘we are a bit greener than other collectives, but other collectives have their focus more on the farmers, we can also learn from that, maybe we focus a bit too much on it’ (9:25). In this sense, the respondents indicated that the aspect of competition can lead to the feeling that bridging social capital is less important.

The lessons on bridging social capital

Lessons that can be drawn from the use of bridging social capital are, first, that it is important to maintain interactions between the collectives (9). In other words, it is important to look outward, and include ideas other than your own to support the positive function of social capital of the bridging kind. The suggestion given to come closer to each other is, meeting up. The way it is organized for the Frisian collectives is generally perceived as the direction to go (2). There the collectives meet regularly; ‘every other month the chairman’s and the members come together. You see each other occasionally’ (9:27) in the collective deliberation. Meeting up can be positive for bridging social capital since it ‘enables collective action capabilities across distinct networks’ (Agger & Jensen, 2015, p. 2051). Though, meeting up has as underlying basis to create trust and reciprocity.

A lesson on trust and building trust is also supported by the meetings at BoerenNatuur which are seen as a useful way to ‘start a conversation with each other’ (2:36). This creates an environment where ‘you don’t have to be afraid to ask a question: we see that we cannot manage this, what can we do better?’ (4:49).

Another lesson learned involved the administrative level: ‘a mission, vision, strategy, how do you do that? And how do you structure your organisation, there is a lot of money in such an organisation, that should be safe’ (3:35). It is recommended to reserve time for these themes. This recommended exchange of experiences relates to the share of ideas, information and thereby access to resources, which is a positive function of bridging social capital.

Remarkable is that for bridging social capital no critiques have been voiced by the respondents. This can be explained due to the role the umbrella organisation takes upon itself displayed by its core function of connecting the collectives and as it acts as one representative actor, in the discussions on agricultural transitions. To address the competition or rivalry between the collectives, it could be needed to lay a greater emphasis on the development of bridging social capital, by seeking rapprochement to each other.

Linking social capital

The last category of social capital that is researched, is linking social capital. It investigates the different relations of the collective regarding other parties, specifically, the institutions which

are social, politically, or economically focused (Patulny & Svendsen, 2007). In the case of the collectives and the necessary transitions in the agricultural sector, this form of social capital can be important for bringing different actors of the vertical network together.

To get a better overview of the results for linking social capitals embeddedness in the collectives and the lessons found, table 6. summarizes the results of this section.

Form of social capital	Function of social capital	Used term	Suggested	Not suggested	Practical advice
Linking	Positive: access to external resources Increase: connecting different groups, regionally and locally	Different parties	Clear objective Maintain your network Make yourself known Make use of the network	Do not focus on contradictions	
	Positive: access to external resources, creation of reciprocity and trust among actors and representatives from formal institutions Increase: connecting different groups, regionally and locally	Connection in a bigger network	Maintain your network Make yourself known Make use of the intermediary function of Living Lab Share knowledge		Connect projects
	Positive: access to external resources Negative: domination of projects	Access to certain resources	Seek contact / connection Make use of the network Share knowledge	Avoid consultancy culture Do not use projects as revenue model	Connect projects
	Positive: creation of reciprocity and trust among actors and representatives from formal institutions	Trust among parties	Involve all parties	Do not focus on contradictions Do not distrust government and network	

Table 6. Summary of results for linking social capital, with the functions of social capital (Agger & Jensen, 2015, p. 2051; Nieuwenhuizen et al., 2014, p. 3)

Embeddedness of linking social capital

The most frequent term in this category is ‘different parties’, meaning and pointing at all different parties which are connected or involved in the overarching network. It points out the vertical connections of the network. As pointed out by a respondent, this form of social capital is used in ‘involving people in the broadest sense’ (1:22) by ‘informing, maybe making it visual’ (1:22) and collaborate with the different parties on plans to implement new agricultural practices. Moreover, ‘Friesland Campina, an insurance company, and the sugar union are also

involved in nature inclusive agriculture and need to make resources available' (1:63) and therefore another need to connect the different parties. The different parties are used to enable access to external resources and the increase of this form of social capital is found by the connection to different groups in a regional and local context.

Second, the involvement of all different parties shows the presence of linking social capital through the 'connection of the collective to a bigger network' and supports the term of 'different parties' described above. Together with applied sciences institute Van Hall Larenstein and MKB Nederland, entrepreneur network Northeast Friesland, a Living Lab was established (8). This is linked to the increasing function of social capital by connecting different groups regionally and locally. The Living Lab can be seen as a direct result of the use of relations built inside the bigger network. Some connections or interactions in the network are mandatory, like to report reimbursements (4). However, in some cases area meetings are organized (4) to bring all the parties in the network together and collaborate on the mentioned themes. The application of linking social capital can be found in these groups embedding themselves in bigger networks (Patulny & Svendsen, 2007). Which in turn means that access to external resources, creation of reciprocity and trust among actors and representatives from formal institutions are the positive function of this form of social capital and used, as described.

Besides, the network is important to gain 'access to certain resources', which is used as a positive function of linking social capital. The respondents mainly indicated financial resources in this case. Due to European legislation and regulation the cashflows are apparent (5). Although some say that the focus on the reimbursement stands in the way of progress and building social capital. 'The Netherlands concentrates on doing projects where money is allocated to' (6:34), instead of reimbursing other work the farmers already do (6). In general, resources are available, but the focus on certain projects, such as nature inclusiveness in agricultural practices, could lead to a domination of that type of projects, being a negative function of linking social capital. Although, it is seen as a good thing that money is allocated to those projects, respondents pointed out that 'the help of the government is missed and from some parts of business, to help farmers in the transition towards nature inclusive agriculture' (8:38).

Thereupon a term important for social capital is 'trust among the parties' as positive function of linking social capital. 'There exists trust, but it has to stay realistic. Timmermans says and does a lot again. But the state is not always the most reliable factor in this story.... It's a complex topic' (10:25). This shows a distrust in the government. Contradictory the respondents point out that the Dutch government has trust in the collectives and there is a close collaboration between terrain management organisations and municipalities (3). Given that the respondents are feeling controlled by the government and missing clear direction it can be argued that trust is missing and should be increased for building linking social capital. A way to use social capital for this topic is 'giving your opinion towards the government and play a role in decision making, but also carry out what you are doing' (2:29).

To summarize, linking social capital is found within the collaboration efforts of the collectives, which means that there is a connection in the vertical network. This has a positive function for the collectives as shown in table 2. Although, trust and the domination of projects are sensitive

subjects. Connecting the results of linking social capital to what is found for the use of bonding and bridging social capital, it is already mentioned in these categories of social capital that it is often recalled as important that other parties are involved as well, meaning society. The respondents mentioned that ‘society has an opinion about everything, and all in all is that a good thing, as long as it brings up a good discussion’ (5:11). This clearly represents the position of collectives within the required agricultural transition in the Netherlands and the need for linking social capital. Which is essentially a sectoral challenge, and it is therefore necessary to ‘involve everyone in nature inclusive agriculture’ (1:60), because it is not just a challenge for the agricultural sector.

It seems that the availability of a bigger network is perceived as positive, although, some say that: ‘[het scheelt natuurlijk ook wie er dan namens de partijen bij betrokken zijn. Dat is allemaal heel stroperig. En ja, wij als boeren zijn meer gewend. Van trekker is stuk. Ga er mee weg, en koop een nieuwe trekker. Punt.] - it depends on which people are involved on behalf of the parties. It all goes slow. We as farmers are used to more like, tractor is broken... Get out and buy a new tractor. Full stop’ (6:49).

Together with the earlier described aspects, such as lack of trust and dominance of certain projects, it can be argued that linking social capital has room to be strengthened and is not always perceived as positive.

The lessons of linking social capital

The lessons which can be drawn from the use of linking social capital can be formulated as follows. First, it is important to have a clearly defined objective, also in the vertical network. Meaning that connections should be used to formulate a common goal together. Beside the allocation of European money to the farmers (5) it should be bringing meadow birds back and stimulate the use of natural pest control (5). But in the broader discussion, the transition towards more sustainable agricultural practices should be a clearly defined objective as well.

Towards other collectives in Europe, it is recommended to ‘gain the trust of your government’ (3:56). The government trusts the collectives and is open to divide budget for measures such as AES. Only with a certain level of trust, this type of system works.

Furthermore, it is seen as important to ‘seek out your contacts and maintain your network. To make yourself known is also important’ (4:43). This lesson relates to the maintenance of the vertical network and building of clear objectives were the network wants to invest in. On top of that, it is important to not focus on the contradictions between the collective’s goal and that of other involved actors (1). These lessons may be typical advice for linking social capital, to accomplish goals it is necessary to keep up a position in a network, but also to make use of the network. For example, to realize goals and obtain information, without any hostilities.

In the case of a Living Lab, the appreciation of the network relies on its role as intermediary between practice and governmental policy. Which helps, because on the one hand, ‘it acts as an extension to realize to put into practice, but on the other hand, it supports the raising of questions that arise from practical experiences and get them addressed at a governmental level. That is a beautiful interplay’ (11:64). It is suggested to focus more on this role and use the Living Lab as such.

Another lesson, ‘avoid a consultancy culture’ means that farming should not be a revenue model for all kinds of parties selling knowledge. ‘But seeking contact with all the parties and show who you are, what you do and what you want to do, to create involvement’ (9:34) is a way to overcome this culture. This means that social capital can be used to not only spread information, for the sake of it, but also use it to express objectives and include other parties collaborate on these objectives.

The last lesson is regarding information on projects. This relates to the negative function of linking social capital, the domination of projects (Agger & Jensen, 2015). A lot of projects draw attention to herbaceous grasslands. ‘What becomes visible is that in a lot of provinces projects are started around herbaceous grassland, while a lot of similar projects already run’ (11:57). The knowledge gathered in these projects could be better shared, so you can start a project based on the knowledge and practical experiences (11). It is recommended to develop a platform, to be able to bundle the results of the projects and connect the network (11).

Criticisms are, therefore, focused on the government’s attitude towards projects, also related to the domination of projects. Projects are not seen as revenue model for NIA by the respondents. This leads to critical points towards the government ‘You cannot do it purely as hobby and from emotions, because the stove must burn and that is a topic which plays a big role for young farmers’ (2:7). The suggestion towards the government is therefore to create trust among the actors, by creating access to resources, which not solely are based on projects.

Remarkable is the criticism on the government and other actors since it includes these actors as well, as part of the vertical network. For the maintenance of linking social capital and the development of it, the network should invest in the positive functions of social capital, to prevent distrust and lack of a clear direction.

Related terms and the societal debate

Besides the terms described above that are directly relatable to the categories of social capital, many other terms are derived from the analysis. Although these terms do not find a direct relation to social capital, they are important to mention for several reasons. First, these terms were often mentioned in the interviews. Second, they emphasize the broader context of the use of social capital. Additionally, these terms can give more insight into the agricultural transition in the Dutch context and its perception. Lastly, a combination of those two characteristics, can tell something about the way social capital plays a role or could play a role in the collaboration within or between the collectives in the transition or in society.

A theme that was mentioned often was the ‘management and conservation of landscapes’. It is the main goal of collectives. Motivations for participation are ‘either you think it is important, or it fits your business, or for instance you have a passion for meadow birds’ (11:9). This commonly mentioned term has its origin in the collectives itself, but it also demonstrates a shared goal among the members and the collectives. Which in turn is important for the increase of bonding social capital. And overall form the basis of the collectives in their horizontal and vertical networks.

For the frequent mentioned term ‘reimbursement’ meaning the financial compensation regarding nature management and conservation, it is found acceptable and preferable that ‘the

trigger in the beginning is that there is financially something to get, it attracts the farmers' (6:43). Since access to resources is important in all forms of social capital, it can be argued that this is the reason that reimbursement is a term often mentioned. Both for its positive and negative function.

These points show the importance of the functions related to bonding, bridging, and linking social capital in the collectives in their original purpose. However, social capital can also have a role in the potential uptake and development of NIA. The next section will draw attention to the transition the Dutch agricultural sector is facing and how the use of social capital takes a place in this.

Agricultural transition

Those dedicated to the changes faced in the agricultural sector in the Netherlands, are focused mainly on nature inclusive agricultural policy. Making 'nature inclusive agriculture' an often-mentioned theme. Some see 'agricultural nature management as snowballing towards the route of nature inclusive agriculture' (1:12). Also, the pilots of the new agricultural policy already 'have aspects of nature inclusive agriculture included' (1:14). Nature inclusive agriculture is not seen as the solution for all, if it is not capable of including what already is happening. Farmers hope to see 'a natural way of farming which is in balance, in all aspects' (2:40). The criticism on implementing new farming practices is that without a 'clear perspective' for the future, 'people stick to the perspective of scaling up and intensifying, because they have insufficient insight in the revenue model of the transition' (8:11). This comment links directly to the ambiguity of NIA as a concept, as described in the literature (Vrolijk et al., 2020). Without a uniform vision, a transition can be harder to accomplish. Social capital can be increased by the development of common goals and thereby unit the farmers and the ones working on NIA by the incorporation of this goal in the network.

Also mentioned by the respondents is that participation in AES leads to more awareness of 'biodiversity', another often recalled theme. Participating farmers 'have a shared background, with certain values' (4:12) and are interested in biodiversity. This means that working from a collective as such is a bonding social capital increasing activity. The common values can be of great importance to collectives and their striking power in the transition, by the ability to develop and realize common goals.

For the implementation of nature inclusive agriculture, a lot of 'experiments and projects' are being initiated. A common practice not just regarding NIA, but also for the new Common Agriculture Policy pilot-projects have been done. The collectives 'try to involve their members in the pilots' (1:76). The goal of these projects is to develop (new) knowledge and collect experiences, a typical function of social capital. Criticism is given on the rivalry experienced. 'It is mostly about getting money for a project... and then... we already invented the wheel and 3-4 years later you visit a different province, and you see the same project' (6:30). The focus on money for projects, brings up a lot of frustrations. Repeating projects is a waste of (financial) resources and can be overcome by using social capital to develop common goals, sharing knowledge and connection different groups regionally and locally, to connect the findings (Nieuwenhuizen et al., 2014).

Another solution would be to organize these projects differently. It would be more useful to coordinate these projects nationally. ‘You could work on the follow up questions of the results. What did you run into? This is a bottleneck... So maybe you can investigate this theme in your trajectory’ (11:37). Bridging social capital can be important here, for the role the umbrella organisation can play in knowledge and experience exchange, as well as, linking social capital, to maintain a healthy network by connecting the different parties.

Challenges of the agricultural transition

Beside the solutions proposed by the respondents for the implementation of NIA and its challenges, the ‘role of the government’ lies in imposing regulations in the transition according to the respondents. This is closely related to one of the most voiced commentaries of the respondents of ‘revenue model’. As of now, it is not considered to be an economically viable solution for the farmers to switch to NIA. ‘It will directly be felt by the farmer in his purse’ (3:28) without having a perspective for the long run. ‘Of course, it is fun to practice nature inclusive agriculture, but in Frisian we say ‘[Wat smyt it op?] - what does it yield?’ (6:13). This can be a problem in the future for nature conservation or AES contracts, because it is found that ‘a low level of trust of farmers in the government or a low reputation of the government has important consequences for the uptake of contracts’ (Polman & Slangen, 2008, p. 418).

The last important term which is shared in multiple categories of the analysis is ‘science’. For farmers it is an important information source at meetings (5). Especially Wageningen University is a main source of information on farming practices. But criticisms on the scientific side of the transition are based on the lack of practical applications in scientific findings and advice. The respondents see practical information as important because that makes the most sense in practice (8). ‘[Je moet met boeren niet aankomen met grote theoretische verhalen, maar hoe moet je dat doen?] - you do not have to come with big theoretical stories to a farmer. Just tell them how you can do things? How to work the land?’ (3:4). Often scientific advice is perceived as ‘imposed from above, which leads to resistance, because farmers are also entrepreneurs, and they want to choose for themselves why they have their business there’ (1:52). It is said that ‘when the question comes from the farmers, then they will accept the results’ (6:19), and ‘you have to be careful that you have independent research’ (6:19). To motivate other farmers, it is said ‘you can give a researcher an opportunity to tell a story, but the best way is to let the farmer tell the story’ (11:6). These results show a lack of trust in science and are a challenge for the implementation of NIA.

This section showed that the subject of agricultural transition comes with a lot of doubts entwined in the system and in science, which leads to a bigger societal debate. Therefore, this is another theme which has been distinguished in the interviews. A brief overview of the related terms and themes of the debate will be given below.

Societal issues

A first theme to mention in the societal debate is the nitrogen crisis the Netherlands faced. It has an influence on the implementation of NIA. It ‘makes it harder to bring the farmers together and connect them’ (11:42). It leaves a gap between the government and the farmers, because the crisis created a lot of distrust in the government (7). This distrust and resistance have in their turn an influence on the collective action felt for the implementation of NIA. ‘Most collective action was lately because of the nitrogen pollution’ (3:31). Nevertheless, there are

other subjects with collective activities such as predation to protect the meadow birds (10). With the possibility of new regulations on nature inclusive agriculture, it is possible to create a new momentum for collective action (6) to tackle the transition to NIA. However, until clearly formulated goals are set, the farmers are holding back on possible collective actions, or the collective actions take place against the government. This would not be helpful in building social capital nor as moving the transition forward. Social capital is found to be ‘a prerequisite of collective action’ (Westerink, Opdam, et al., 2017, p. 411), although the current societal debates stand in the way of developing collective actions.

To restore trust in the government it is derived from the analysis that ‘honouring the existing commitments’ can be a solution. It ‘applies to the government, but also for us. If you made an appointment or commitment, then live up to it’ (7:18). Also bringing the people and parties together, to talk about certain issues ‘bringing the network together and aligning issues with each other’ (11:60) could add on restoring trust in the collaboration. Which can help in the further development and increase of social capital. It is thereby needed that the government has not a ‘suspicious’ attitude towards the farmers or collectives. ‘The overall system is designed to collaborate collectively’ (8:41) so the respondents do not understand why individual farmers are checked so often.

Though, collectives do have an important role in governmental processes, such as the design of regulations and policies. Especially regarding the ‘[Omgevingswet] - Environment and Planning Act’, a collective was asked to deliver their input on environmental visions (3), which needed to be designed. This gives both parties a feeling of involvement and trust, and it is good to ‘have a look behind the scenes’ (3:68) for the collective on how governmental regulations and policies come together normally. Besides, it creates an opportunity to make use of its connectedness in the network and influence policy, ‘which you need to deal with later anyway’ (3:43). Overall, within the societal debate about the implementation of NIA, the experience is that all parties ‘slowly grow together because we need each other’ (5:31).

Although, there is a need and a wish that the government makes decisions clearer, ‘[alleen de politiek is wel eens een beetje huiverig om echt de doordachte en goede stappen te maken] - just politics are a bit hesitant to make thoughtful and good steps’ (10:6). One respondents could place this in perspective and sees this confusing time as a phase of the transition they are in now (2). The wish for clear directions sometimes diametrically opposes the wish for ‘autonomy’. It is experienced as top down, ‘and that brings up a lot of resistance, you are entrepreneur, and you want to make your own choices ...’ (1:52). Some respondents link it more to the region they are operating in. ‘Especially in the woods, do not tell people how they should do it... they will get upset’ (3:14). The wish for autonomy and the distrust regarding the government is not easy to overcome. It both has an influence on the reciprocity and trust of the vertical network. This positive function of linking social capital needs to be restored. Social media can be used for this. Respondents mentioned the use of social media by the chairman of the umbrella organisation regarding the societal debate. They are happy with his ability to translate practice in the political debate. It is seen as important to bring people on the same page (1) and connect members. This type of involvement can be relevant for the agricultural sector, to bring the discussion to a wider audience. As a general suggestion, reasoned from a

perspective of common sense it is said that openness is a recommendation in all kinds of collaborations (7). Even when ‘things did not go as they should have been done’ (3: 59).

Answering the research questions

The next section will build on the summary of findings given in tables 4, 5 and 6, by answering the research questions and placing the findings in a broader and more theoretical context. First an overview of the results will answer the sub-questions stated for this research. Followed by an answer on the main research question.

For the first sub question: ‘how is bonding social capital used?’, it is found that bonding social capital expresses itself in the access to resources, safety, and support regarding shared goals. It is used by bringing members closer together. Meeting up and having direct contact with each other are seen as the most important activities because it enables sharing ideas and information, creating togetherness and involvement which strengthens the inward-looking characteristic of bonding social capital. It is also found that there is trust between members of the collectives. This can be explained by the historical embedding of cooperatives on this subject (Bijman, 2009; Renting & Van Der Ploeg, 2001). Mainly the positive functions of bonding social capital are supported by using social capital in the collectives. This form of social capital is increased by the presence of a shared goals and the mentioned activities contribute to further development of common goals. Which holds a great potential for the implementation of NIA.

Regarding bridging social capital and to answer the second sub question ‘how is bridging social capital used?’, the use of social capital is found in the way the collectives interact and have meetings with each other to share information and ideas. Moreover, it is mainly deployed by the umbrella organisation, BoerenNatuur. The activities they organize form a bridge for the collectives to talk about certain subjects and build a network which exchanges new ideas and information. Therefore, BoerenNatuur plays a great role in the access to resources for the collectives and enables the intermediary function in landscape management which collectives have (Prager, 2015a). However, also negative functions of the use of social capital are found. When budgets need to be divided, competitiveness takes over, which has a risk of group conflict. The way bridging social capital is used by BoerenNatuur strengthens the bonding social capital of collectives, by developing at the same time bridging social capital.

For the third sub question ‘how is linking social capital used?’, it is found and used in the vertical connection within the community, with a great variety of actors. The influence of the possible implementation of NIA in this category, is the development of new networks. Social capital is used by connecting the different parties, gain access to resources and the creation of trust. However, it is found to be difficult to trust other parties, especially the government, because of conflicting interest. Nonetheless, collectives are active in connecting and finding ways to experiment with new measures and policies. Although, the focus may excessively be on projects and experiments. This is determined as a negative function of linking social capital (Agger & Jensen, 2015). The challenge to switch to a more nature inclusive agricultural system is seen as a challenge for society by the respondents. Which may mean that linking social capital is needed more.

Summarizing the lessons drawn from the analysis and described in the result section builds up to an answer to the stated research question of this research ‘How can the lessons regarding the

use of social capital in the Dutch collectives concerned with the implementation of nature inclusive agriculture be defined?’ It is found that lessons for bonding social capital are to have a warm approach to your members and inform them to create connection among members. The suggestion is given that the collective should not be used as a controlling body. For bridging social capital meeting up and thereby having interactions are seen as an important lesson for other collectives. By for instance actively attending the activities organized by BoerenNatuur. A recommendation regarding BoerenNatuur is to play a bigger role in the alignment and organisation of experiments and projects. To improve or develop linking social capital, lessons are given as, aiming at the bigger network, seeking contact and work towards a clear goal together, while keeping with commitments made.

Discussion

This research investigates the use of social capital in the Dutch farmers collectives to enable collaboration on the implementation of nature inclusive agriculture (NIA). The objective is to retrieve lessons, which can be used by other collectives in the compulsory transitions expected in the Dutch agricultural sector. This transition, aiming at the implementation of NIA, is seen as a niche development (Smits et al., 2019). This research therefore uses strategic niche management in combination with social capital, to add to the current knowledge on niche development. A qualitative method with semi-structured interviews is used in a case study.

The research question ‘How can the lessons regarding the use of social capital in the Dutch collectives concerned with the implementation of nature inclusive agriculture be defined?’ is answered with the findings. It can be summarized that all forms of social capital are used in the Dutch farmers collectives. Regarding all forms of social capital lessons are given. For bonding social capital, it is suggested to create connections among members, for bridging social capital it is important to attend activities of BoerenNatuur and meet up with other collectives. For linking social capital, the lessons are centred around seeking contact in the network and keeping up commitments to maintain trust in the network. The practical recommendations towards collectives are described in the concluding section.

The findings can be positioned in a broader debate. First, NIA itself is highly debated as it is proposed as a new model for the Dutch agricultural sector (Doorn et al., 2016). The findings show that adopting NIA in practice is not yet a shared goal. Which has underlying reasons, supported by other topics in the debate, namely the concept of NIA lacks clarity in definition, a clear perspective for farmers and a business model (Smits et al., 2019; Vrolijk et al., 2020). Moreover, NIA is seen as a collaboration challenge, wherefore the organisation of the collaboration is debated (Runhaar, 2017). It is argued that collectives have a promising role in this (Prager, 2015a). Although the exact role of collectives is not determined yet, it is found that bridging social capital has high potential in strengthening the collaboration between collectives with the coordinating function of the umbrella organisation. Former research has drawn attention to the division in tasks and professionalization of collectives and the role of social capital in the collectives (Dik et al., 2021; Westerink et al., 2020; Westerink, Jongeneel, et al., 2017). The findings of this research are important for the collectives’ collaboration, to add on knowledge about their use of social capital, to strengthen their collaboration. And the collective application for AES of the Netherlands is a remarkable design, which attracts attention from

other European member states, awaiting the effectiveness of the design (Westerink, Jongeneel, et al., 2017). Thereby the findings of this research give recommendations on the use and development of social capital and the use of social capital in SNM, and these two could strengthen each other in a transition. It therefore contributes to the knowledge gap with its key findings, by giving a better understanding of the use of social capital, with its negative and positive functions (Agger & Jensen, 2015).

This chapter will address reflections on the conducted research. First a reflection on the findings is given in the light of the choice of theory, including the limitations of the chosen concepts. Followed by the implications of the research and the methodological limitations. Finally, suggestions for further research will be given.

Reflection on theory

The next section will discuss the results of this research. Moreover, it brings the results back to the conceptual framework, and is therefore used to elaborate on the position of social capital in the theory of SNM.

Social capital

The findings show that all forms of social capital from the framework of Agger & Jensen (2015) supplemented with insights from Nieuwenhuizen et al. (2014), are used by the collectives. First, bonding social capital is used to create connections with the members by informing them and connecting them. The lessons relate to these. It leads to the feeling of safety and support, which in turn ensures the ability for the realization of common goals (Agger & Jensen, 2015). As a clear goal for the transition in the Dutch agricultural sector is formulated, bonding social capital provides the ability to realize so. The findings for bonding social capital are supported by the findings of Nieuwenhuizen et al. (2014) as expected because of the focus of maintenance of social capital in the collectives. The practical advice found are not supported by academic literature.

Second, it is found that bridging social capital is mainly used in interactions between the collectives, whereby sharing and increasing knowledge is the focus. It is found as recommendation to actively meet up, join activities of the umbrella organisation to share ideas and knowledge. These findings support the organisation structure and coordination of BoerenNatuur but are not further elaborated in existing research. Although, the findings correspond with the bridging capacity of social capital in collectives (Prager, 2015a; Westerink, Opdam, et al., 2017). The bridging form of social capital can have a great influence on a transition since it can be used as a 'lever of change in farmers' socio-cultural norms and landscape preferences in more environmentally sound directions' (Krom, 2017, p. 359). However, a precondition is that the agri-environmental work must be appreciated by the public as stated in former research. This precondition is found to be supported by the findings of this research, which show that farmers feel left alone in the transitions, which is also supported by the findings of Krom (2017).

Third, linking social capital is used within the broader network the collectives are embedded in. Emphasized recommendations were honouring existing agreements and building upon mutual trust, which are important elements of the functions of linking social capital (Agger & Jensen, 2015). Contradictory, lack of trust in the government is often mentioned, which can be

explained by the societal unrest around the Covid-19 measures and the nitrogen crisis. Although, the unrest is explainable it obstructs the development of social capital. It focuses on the negative function of social capital, e.g., lack of trust, and therefore risks a decrease in social capital by the domination of projects (Agger & Jensen, 2015). Though, the perception of social capital, and thereby trust, can be perceived differently by the other actors in the network (Polman & Slangen, 2008). Nevertheless, the interference of the experienced unrest in society with the findings regarding linking social capital, make it hard to judge whether these findings can be determined as new. Also, the impact of the recommendations, since they are basic and fragile, might not create the needed movement in the transition.

Thereby, between bonding and linking social capital the danger occurs that with the development of one of the two forms of social capital, the other will decrease (Westerink et al., 2020). In this research it is found that linking social capital is often used with its negative function e.g., domination of projects. Bonding social capital is found to be used for its positive function, nevertheless as recommendation a warning is given to stay close to the positive function of social capital and prevent from using the collective as controlling body. This recommendation can be explained by the need of collectives to ‘adopt characteristics of a public agency’ (Westerink et al., 2020, p. 398) to gain trust of the government. Therefore, as a downside a decrease of bonding social capital can occur and ‘farmers can no longer identify with or feel represented by their collectives (Westerink et al., 2020, p. 397). Additionally, it is stated that the different forms of social capital seem to ‘occur at the cost of another form of social capital’ (Westerink et al., 2020, p. 398). This precarious balance can be supported by a nested structure in the organisation, to help maintain bonding social capital. This relates to the recommendation given, that developing an organisation structure enables the collective to develop structures for meeting up, exchanging ideas and executing projects. It helps to professionalize the collectives which in turn is related to effectiveness of landscape management (Dik et al., 2021). With the active implementation of the recommendations given, the results of this research might have a positive impact on the transition towards NIA. Mostly within the bonding and bridging kind of social capital, because of the clear and positive recommendations found.

In further reflection on the choice for the framework by Agger & Jensen (2015) supplemented with the insights of Nieuwenhuizen et al. (2014) it can be argued that this distinction lacks distinct boundaries between the different forms of social capital. Its consequence is that it obstructs the ability to draw specific lessons per category of social capital and find further in-depth knowledge on the development of social capital. The found recommendations are applicable in the other forms of social capital as well. Though, the framework is an available and applicable division of the concept of social capital (Agger & Jensen, 2015).

Moreover, the framework of Agger & Jensen (2015) finds its application in an urban context. This may have had an influence on the finding of this research dedicated to a rural context. Nevertheless, the Netherlands has a different distribution in urban and rural areas since it is highly populated. This interconnection of rural and urban areas allows for the use of this framework in a rural context (Busck et al., 2009).

Besides, social capital can occur in both formal and informal patterns, which differ per country (Pichler & Wallace, 2007). Since the framework of Agger & Jensen (2015) finds its application in a Danish context, it could be argued that it is not useful in the Dutch context. However, the Netherlands and Denmark are found to be comparable in geographical and social factors and often used for comparison in research (Busck et al., 2009). For the results of this research, it may mean that they are less generalisable for other (European) countries. Therefore, it is a limitation for the use of the findings in the broader context. Nevertheless, with the current knowledge on social capital and its application, the findings can be used as support in further research on the use of social capital in a different context.

Transition towards nature inclusive agriculture

Drawing attention to the themes derived from the findings that are important for the transition towards nature inclusive agriculture, there are several important to mention. First, it is found that respondents lack trust in actors outside their network. Most important is trust in the government. Restoring this is key for the participation in AES (Polman & Slangen, 2008). It is found that the respondents lack trust in science. This can have an enormous influence on the experiments done in the collective, which are often supported by researchers from different institutes. Experiments are the base in the development of a niche, in this case NIA, with a learning-based approach such as SNM (Kemp et al., 2005). Without trusting the participation of academia, the learning-based aspect of many transition theories, is nullified.

Secondly, for a successful collaboration of the collectives the goal needs to be clear. Which expresses itself in an important characteristic of bonding social capital, namely having a common goal. The challenge is to align the government's goal with the goal of the collective. As described before, the collectives need clear directions, a 'dot on the horizon' (Vrolijk et al., 2020, p. 24). This need is in contrast with the concept of self-governance, whereby the Dutch government reduces its own role (Westerink et al., 2015). With the challenge of implementing nature inclusive agriculture, or some other practice, to transition the agricultural sector, bringing it from niche to mainstream, this unclarity in direction is unhelpful. Moreover, prior research shows us that 'a prerequisite of collaboration... is the need to solve a common problem' (Prager, 2015b, p. 63). This is a recalled theme in this research. The transition towards NIA should not solely be a challenge for those working in agriculture. Though, not one individual is responsible, and everyone needs to adopt it as their problem.

Third, this research focusses on a transition in the Dutch agricultural sector with the implementation of NIA, whether it lacks a clear perspective. It could be questioned if this sector is already in transition. Although the stated research question implies so, it is debatable if the retrieved findings are based on former experiences or dedicated to the implementation of NIA. Nevertheless, the ambiguousness of this transitions needs an integral approach in the transition towards a more sustainable agricultural sector (Vrolijk et al., 2020). And the findings of this research may be useful in any transitions involving the collectives.

Additionally, the future of this sector in general could be questioned. In this research it is assumed that the agricultural sector has a future because of the implementation of NIA. But it can be argued that the agricultural sector should adopt a focus on biodiversity as its core (Karlsson-Vinkhuyzen et al., 2018). While NIA relies 'solely' on reframing agricultural

practices and thereby including biodiversity, adopting biodiversity as a core focus implies that the niche development does not limit itself to the agricultural sector. Meaning that the focus of the niche development should be on mainstreaming biodiversity in all sectors. This could lead to a positive economic effect since biodiversity losses are associated with economic losses. Little attention is paid to this relation in the current (agricultural) system (Karlsson-Vinkhuyzen et al., 2018).

Furthermore, beside the inclusion of biodiversity as a core goal in future agricultural policies, it can be argued that more themes are excluded in the NIA strategy so far. Animal welfare is one of these debated themes (Horgan & Gavinelli, 2006). With the inclusion of animal welfare to a greater extent than it has been done so far, it will possibly imply the end of livestock farming in the Netherlands. Even though, for some the perception is that NIA is a far reaching and drastic for the Dutch farming practices, it can be debated if it includes all pillars of a sustainable and ethical living environment. Despite this critique on NIA as such, the results of this research may be useful for any transition in agriculture, showing the importance and use of the different forms of social capital.

Strategic niche management

The next section will describe the findings in relation to SNM. First, the collectives behave as pioneers in niche development, by doing experiments and running projects. This could have a great leverage in the development of the niche, but the risk lies in that the pioneers' expectations are not aligned with the majority of the group which need to adopt the practices as mainstream (Caniëls & Romijn, 2008). In this case this risk is found in the alignment of expectations of the different actors. The collectives do not have the same idea about the development in the agricultural sector as other involved actors. Moreover, the farmers participating in collectives are already interested in nature protection. Meaning that the expectations might not find alignment with most farmers. Nevertheless, this pioneering position is key in SNM (Loorbach & Rotmans, 2010). And social capital could play a role in the alignment between the actors.

Secondly, the three subprocesses for the formation and creation of a niche, described in the section on strategic niche management, can be linked with the recommendations found (Caniëls & Romijn, 2008). For the first subprocess, managing promises and expectations, bonding and bridging social capital could come in place. The use of these forms of social capital could lead to, or support, having regular meetings, the build-up of trust, and the sharing of information. Looking outward, to the promises and expectations of society, the needs of society could get clearer with the uptake of linking social capital and following the recommendation of keeping to appointments and commitments.

The second subprocess, focusses on experimentation-based learning (Caniëls & Romijn, 2008). Not surprisingly, the experiments done by the collectives, supported by different forms of social capital could support the niche development process. All three forms of social capital, bonding, bridging, and linking social capital could help in supporting the experimentation phases. Though, emphasizing linking social capital could lead to more acceptance of the results. However, this is a contradictory and sensitive subject, as it relates to the formerly described distrust in science and lack of a clear goal. The recommendation of seeking contacts in the network should be followed to overcome this.

The last subprocess relies on actor networks (Caniëls & Romijn, 2008). Often mentioned in this research is the revenue model of NIA. This could be a bottleneck in further development of actor networks because involved actors do not feel obliged to finance NIA in some way. Linking social capital could strengthen and help the actor networks in two ways. First it could bring people on the same page, whereby the focus on a financial gain – revenue model, can be decreased and an increase of willingness between the actors and partners in the network could increase. Second, if the ‘technology’, in this case NIA, cannot without financial support, the network should be used to find different solutions for the revenue model. This is where linking social capital can be of high value. It could help to avoid different expectations on the future of the Dutch agricultural sector.

Moreover, the processes described in SNM to make a niche development a success or a failure, can be connected with the use of social capital. The first process is that the expectations should be derived from experiments (Caniëls & Romijn, 2008). Sharing ideas and knowledge, important for all forms of social capital, should use the information gained from the experiments as a base. Therefore, the recommendations to create connection to enable sharing information is important. Distrust in other parties blocks this process needed for SNM, so the distrust mentioned in this research should be restored. Social capital could align the expectations of the experiments and for that reason the application of social capital in SNM has a high potential.

The second process is the importance of a broad network (Caniëls & Romijn, 2008). In the results of this research, it becomes clear that many interactions are found between all sorts of actors, in all forms of social capital. Though, in these interactions, trust is found to be precarious, therefore the application of social capital in this second process has a medium potential. To expand this potential the recommendation for linking social capital, to overcome this distrust by not focussing on the contradictions should be considered.

The last process of success and failure, focusses on the socio-economic factors (Caniëls & Romijn, 2008). The new ‘technology’ and its implementation should not solely focus on the technological side. Deriving from this research, the social factors should be emphasized more. It is found that the emotional and cultural value of agriculture is excluded. Here lies a role for bonding and linking social capital, to share these social factors. As found in the results, a recommendation is given to make the agriculture sector visible and connect to society, by carrying out the socio-cultural aspects.

To summarize for the three processes of success and failure, it is argued that social capital can play a supporting role. In the case of the implementation of NIA, some processes and the link with social capital hold a potential, in others social capital may already be used. Although, it is not within the scope of the research to draw conclusions on this, it may be clear that using social capital in niche development has overall a high potential to help a niche to become a mainstreaming practice by considering the recommendations found and build strong networks.

It can be discussed whether the choice for SNM as theoretical base was an appropriate one. The strength of the theory lies in the ability to have a closer look at the developments on a niche level. With special attention to the ability to create a protective space for certain developments. These abilities of SNM are reflected in this research by the clear application of the use of social capital to the specific processes for the creation and successfulness of a niche in SNM.

Though the weakness of the theory of SNM is the lack of a toolbox to use SNM in practice (Raven, 2010). This theory is mainly used for researching niches, and not for the development of one. This relates to the findings, that the respondents complain that everything needs to be a project, as a small research subject. This slows down actual implementation of new ideas. And it is contradictory to the practical nature of this transition, to focus on a theory which is hardly used in practice.

Another weakness of SNM lies in the lack of evidence that SNM is able to link single experiments in a series of coherent projects (Caniëls & Romijn, 2008). This makes SNM a hard theory to use in further development of NIA, because NIA, as a broad subject, covers many themes. This means many experiments need to be done to derive useful results for further development of knowledge of NIA and therefore the niche development. This weakness is supported by the findings of this research suggesting a different method for the management of experiments and projects. They are often repeated by different collectives, so it lacks succession. This can be seen as an inability to connect experiments in series. Therefore, other transition management methods or theories could come in place for the transition towards NIA, such as TM.

Approaching the transition towards NIA with TM, the Netherlands would be in the stage of pre-development (Rotmans et al., 2001). The transition towards NIA is still in a premature stage, with unclear goals and a system which relies on status quo. Meaning that although some might include NIA already in their agricultural practices, most of the agricultural production relies on conventional farming (Runhaar, 2017). Having a clear goal is a precondition of using TM (Rotmans et al., 2001). Thereby, the use of TM and the phase the Dutch agricultural transition is in, would draw attention to the potential use of social capital, instead of exploring how it is currently used, which this research aimed to do. Using TM as method to implement NIA might work, although given the precondition of a clear goal it might not be a useful theory in this stage of the implementation. Therefore, for the sake of this research SNM is found to be an appropriate theory. It allowed the researcher to gain insights of the use of social capital in niche development and future perspectives of the use of social capital in transitions, although SNM has its flaws.

Implications

This research has implications to a broader context. First, for academic purposes, this research has implication for SNM, by connecting it with social capital. Little attention has been paid to this connection before and it offered insights in the usefulness of social capital in SNM processes. These insights show how social capital is used in the collectives, but also how social capital can add on SNM by specifically using social capital for the development of a niche.

Moreover, the knowledge on the use of social capital in collectives and therefore AES has been added on, which enables AES to build effective and successful collaborations, which in turn can reduce transaction costs (Krom, 2017). Thereby collectives have a bridging function, which is shown by the uptake of bridging social capital, which can have a great leverage to make the experiments successive and successful. Additionally, the use of social capital enables the possibilities for experimentation and projects and therefore the development of a niche with for instance the use of SNM.

Successively, the findings of this research have implications for other transitions in Europe, such as the out roll of agroecology. First of all, the four critical conditions for a transition towards agroecology - having concrete goals, political and societal pressure, a broad coalition, building institutions to support and sustain regime change - have close interfaces with the findings of this research or the use of social capital could add on meeting these conditions (Runhaar, 2021). Especially linking social capital could come in place by building a coalition, find support in the institutions to sustain the regime and align the expectations and therewith create concrete goals.

Methodological limitations

Beside the theoretical limitations, this research is submissive to methodological limitations. First, the reliability of this research can be discussed for the use of social capital and strategic niche management. This combination is not supported in academic literature. This makes it hard to compare the interpretation of the findings with findings of former research. Though, data triangulation is used in this research. The results still can be of added value in the exploration on the recommendation for the use of social capital.

Second, with the sample choice of this research, the focus was on respondents which were part of the same group, namely collectives. Respondents could have been found outside of the collective, to emphasize on how bridging and linking social capital is used as this is used from multiple perspectives. In the data collection not for all forms of social capital the same input has been found. More codes are dedicated to the category of bonding social capital. This can have two explanations, first, it is the first questioned form of social capital which could deliver more results, second the form of social capital is used the most in the collective. Future research could draw attention to this critique.

Third, the choice for pioneering collectives as a case study has consequences for the generalization of results. Specifically, the collectives originating from after 2016 could have more trouble with the use of the findings, because social capital takes time to build-up (Nieuwenhuizen et al., 2014). Although, in this research it was an appropriate choice because pioneering collectives take up a key role in niche development, because they have the most experience in the subject (Loorbach & Rotmans, 2010). And are most experienced in the use of social capital.

Fourth, the research design with semi-structured interviews left room for discussing other subjects. This resulted in many complaints about the government and the transition. Which possibly influenced the findings. Nevertheless, it is an important finding and can be explained in two ways: either there are a lot of frustrations, or the researcher was seen as a good way to express their frustrations to a broader public, or both. Though, it can affect the findings about social capital because the emphasis is on the frustration and distrust instead of building up, maintaining, and developing their social capital.

Another limitation is the choice to base the analysis on inductive coding. It may have had a great influence on the interpretation of the results. The interpretation of linking the code to the operationalized concepts of social capital, has a strong influence of researcher's bias. Deductive coding could have been of added value because it would enable the findings to lie closer to the theory (Van Thiel, 2014). This could have resulted in clear recommendations per category of

social capital. Though, inductive coding allowed for broader results than solely the theory and it showed that social capital is not a fixed interaction. Which fitted the explorative approach of this research.

The last limitation to mention is that the analysis has been executed in Dutch. This could be seen as another methodological limitation because it can be argued that coding in English makes the link with academic literature clearer. It may have an influence on the interpretation of the forms of social capital. On the other hand, coding in Dutch, using Dutch transcripts, the connection between the data and the codes is closer. Also, since the native language of the researcher is Dutch, it can be of value because nuances in the data are better understood.

In terms of practicality, during the conduction of the research some barriers are experienced. First, given the origin of most respondents in the northern part of the Netherlands, the accent, dialect, and language use led in some cases to a language barrier. Given the origin of the researcher, and her knowledge of Frisian, the barrier was manageable. However, it holds the chance that the respondents are less understood.

Second, bad internet connections, influenced the accessibility, intelligibility, and flexibility of the interviews. The flexibility is mainly important for the approach chosen in this research, namely, to conduct semi-structured interviews (Clifford et al., 2010). A bad connection interferes with the natural flow of a conversation. However, with patience, all subjects needed to discuss, were discussed in the interviews. Moreover, the use of Zoom can be judged for its privacy policy (Wagenseil, 2021). Though, the circumstances of the research period did not allow for another choice of software.

Suggestions for future research

Suggestions for further research are first, to conduct similar research with collectives which were established after 2016. It can give clarification on the use of social capital, whether it is dependent on the history of the organisation and if so, if it would make a difference in the transition towards NIA.

Moreover, it would be interesting to research the use of bridging and linking social capital from the perspective of other actors, such as BoerenNatuur and the actors involved in the bigger network. It could give better insights in the use of these forms of social capital and therefore it could give more in-depth information about the use of SNM and teach us if SNM holds potential in the bigger actor network.

Emphasizing on the experimentation-based approach of SNM, future research could draw more attention to what processes in SNM are needed to link the single experiments and results into a series. This could be reasoned from a perspective of social capital; whereby social capital can be used as a tool in these processes. Additionally, it could be researched how social capital can be used to move a niche development towards a mainstream practice. This suggestion lies in the extension of this research. Also, apart from social capital in SNM, it might be useful to dedicate more research to niche developments, given the transitions ahead of us.

Lastly, the perception of the societal debate around NIA has found to be a lively one. Future research could draw more attention to this relation. Furthermore, the creation of collective

action and common knowledge could be further investigated and the role in the transition of the agricultural sector in accompanying societal debate.

Conclusion and recommendations

To finalize this research, this section will provide concluding remarks. As answer to the stated research question ‘How can the lessons regarding the use of social capital in the Dutch collectives concerned with the implementation of nature inclusive agriculture be defined?’, it is found that social capital is used, aware and unaware, to maintain and increase the connections between the members, collectives, and network. The lessons which can be defined are based on the creation of connection, meeting up, seeking contact, and keeping up to commitments. Further practical recommendations are explained below.

Therefore, it can be concluded that based on this research, social capital is used in the Dutch collectives. Social capital holds a high potential for its use and development in the transition towards more sustainable agricultural practices for its ability to align expectations and develop common goals. Moreover, collectives using social capital hold high potential in the use of transition theories, such as strategic niche management. The learning-based approach of this theory finds a match with social capital and the organisation structure of the collectives, enabling the execution of projects and experiments. Moreover, the results of this research add on the knowledge of effective collaboration in collectives, the collective uptake of AES and adds on the theorization of the use of social capital in transition theory, specifically the use in niche development.

The findings of this research show great implications in the empirical debate of the subject. It shows recommendations for the use of social capital in niche development and brings out related societal debates. Striking in the societal debate is that it seems that the farmers and government point at each other regarding the topic of sustainable agricultural practices. The role of social capital in this, could have been a great one, but with the hostility of this discussion, social capital seems to decrease. Moreover, the farmers are getting more hesitant in giving the government a role in the transitions. Which will lead to a stagnation of the transition because all actors need to be involved. These societal debates should be resolved, to enable the use of social capital and thereby build a sustainable agricultural sector in the Netherlands. And moreover, healthy ecosystems worldwide.

Practical recommendations

This section will briefly give recommendations and practical advice for other collectives willing to use or strengthen their use of social capital. Some recommendations might be more useful for the bigger network or the umbrella organisation in place.

1. Stay close to your members by using a warm approach, e.g., make personal contact, visit, or call instead of emailing
2. Involve your members by informing them and organize study groups
3. Coordinate more information and knowledge exchange nationally
4. Involve not only members, most themes are important for a broader public, therefore organize open activities in your area
5. Develop a proper organisation structure, it allows for regular meetings with members

6. Professionalize the organisation structure by adopting a mission, vision, strategy, and financial plan and by possibly developing a special branch for different themes such as projects
7. Do not use the collective as a controlling body, by not punishing mistakes, but seeking the conversation on the subject
8. Maintain your connection to other collectives by regularly meeting up and joining the activities by BoerenNatuur
9. Seek rapprochement to other collectives to overcome budgetary competition
10. Consider a deliberation of collectives of your own region, to align arguments and act as one player towards the government
11. Get a clear objective of the network you are involved in by seeking connection and make clear what your contribution is and positioning yourself in the network
12. Use the network, as an intermediary between practice and governmental policy by fulfilling your own role in this e.g., participate in the development of new regulations)
13. Avoid a focus on solely information exchange, without practical insights (a consultancy culture), by the creation of involvement and translation of knowledge in a practical application
14. When considering implementing more nature inclusive practices in your business, seek connection in the network, find likeminded people and exchange knowledge
15. Share results of projects, so other collectives (or parties) can build upon the result(s)
16. Do not focus on the revenue model of nature inclusive agriculture, or on the distrust in the government, but focus on searching connection and solutions with all involved (and important) parties

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Appendix A: Interview guide and topic list

Interview gids

Vraagstelling:

Hoofdvraag: hoe wordt sociaal kapitaal toegepast in de Nederlandse collectieven in de natuur inclusieve landbouw (NiL) implementatie?

(Sub vraag 1) – hoe is hechtend sociaal kapitaal gebruikt?

(Sub vraag 2) – hoe is overbruggend sociaal kapitaal gebruikt?

(Sub vraag 3) – Hoe is koppelend sociaal kapitaal gebruikt?

(Sub vraag 4) – Welke lessen uit het gebruik van sociaal kapitaal kunnen er worden getrokken?

Introductie van personen en het onderwerp

Allereerst, zal ik mijzelf even voorstellen. Ik ben Aafke Schaap, een master student van de Radboud universiteit in Nijmegen. In mijn interesse voor rurale gebieden, heb ik de keuze gemaakt hierover een master scriptie te schrijven. Het onderwerp is hoe sociaal kapitaal wordt gebruikt in Nederlandse collectieven in de implementatie van natuur-inclusieve landbouw. Ik zal zo wat meer uitleggen over het begrip sociaal kapitaal. Maar ik ben eerst benieuwd; wie bent u?

~

Ik heb je uitgenodigd om mee te doen aan dit interview omdat je lid, medewerker of nauw betrokken bent bij een boerencollectief (en actief in het implementatieproces van natuur-inclusieve landbouw).

Mijn onderzoek focust zich op het gebruik van sociaal kapitaal, ook wel opgevat als alle sociale goederen beschikbaar en gebruikt in een community of een netwerk, dus ook een collectief. Het doel van mijn onderzoek is om wat lessen te formuleren over het gebruik en de ontwikkeling van dit sociale goed, voor collectieven. Vanuit een theoretische achtergrond, speelt sociaal kapitaal een rol in de collectieven en kan helpen om een sterkere samenwerking en meer effectiviteit in het collectief te realiseren. Dit kan van belang zijn in uitdagingen zoals de implementatie van natuur-inclusieve landbouw.

Nog iets dieper in gaand op sociaal kapitaal. Sociaal kapitaal zijn de zachte (niet tastbare) kwaliteiten van een netwerk of een groep, die het mogelijk maken dingen met elkaar te realiseren. Het bevat vertrouwen, toegang tot kennis, ondersteuning, gedeelde waarden, de capaciteit om te leren als groep, het deel zijn van een groter netwerk etc. Sociaal kapitaal kan onderverdeeld worden in drie categorieën: hechtend, overbruggend en koppelend, wat beoogt het sociaal kapitaal IN een collectief, TUSSEN een collectief en in een groter netwerk.

Schroom niet meer verheldering te vragen als dat nodig is.

Een aantal praktische zaken: de data zal worden geanonimiseerd en gebruikt worden voor academische doeleinden. Het uiteindelijke rapport zal worden gebaseerd op één collectief of veralgemeniseerd worden. Je zult dus niet herkenbaar in het rapport naar voren komen, mogelijk wel herleidbaar. Het interview duurt maximaal een uur. Zijn er meer vragen voordat we beginnen?

Laatste vraag: bent u akkoord met het opnemen van dit interview?

Ja. Dan zal ik nu de opname starten, en dezelfde vraag nogmaals stellen, zodat deze is vastgelegd.

~ afname van het interview ~

Afronding

Is er iets wat je nog wilt toevoegen aan dit interview? Zijn er onderwerpen die missen in jouw mening, die belangrijk zijn te benoemen? Hoe heeft u dit interview ervaren?

Kan ik u bereiken als bepaalde onderwerpen nog verheldering of verdere toespitsing behoeven?

Wilt u het uiteindelijke rapport ontvangen?

Dank voor uw tijd en deelname aan dit interview. Voel je vrij mij te contacteren als er nog vragen over het onderzoek of het interview heeft.

Topic list

1. Algemene informatie

- a. Welk collectief bent u bij betrokken?
- b. Wat is uw rol in het collectief?
- c. Hoe is natuur inbegrepen in uw praktijken?
 - i. *Op de boerderij/ in de praktijk*: wat voor veranderingen maak je in de praktijk om de natuur erbij in te begrijpen?
 - ii. *Beleid gerelateerd*: Op welke manier werk je met het inclusief maken van **natuur in de landbouw**?

2. Hechtend sociaal kapitaal

- a. *Gedeelde identiteit – buitensluiting*
 - i. Wat zijn de doelen van het collectief?
 1. Zijn deze doelen hetzelfde voor boeren als voor andere betrokkenen?
 1. Welke gedeelde doelen brengt leden samen?
 2. Welke doelen conflicteren met andere leden/betrokkenen?
 3. Hoe zijn gedeelde doelen ontwikkeld in de groep?
 4. Hoe zijn gedeelde doelen over natuur inclusiviteit in de praktijk ontworpen?
 2. Wat belangrijk voor de realisatie van (deze) doelen?
 3. Zou je zeggen dat de doelen een missie van de groep zijn?
 1. Wat kan er worden gedaan om het gevoel van een missie te doen toenemen?
 - ii. Voel je je onderdeel van het collectief?
 1. Hoe zou dit kunnen toenemen?
 - iii. Zijn er gedeelde waarden in het collectief?
 1. Wat zijn deze gedeelde waarden?
 2. Wat wordt er gedaan om deze gedeelde waarden te ontwikkelen?
 3. Zijn de gedeelde waarden veranderd met het doel om natuur meer in de landbouw te includeren?
 - i. Hoe zijn deze dan veranderd?
 - ii. Hoe dragen deze bij aan natuur inclusiviteit?
 - iv. Zou je het collectief een authentieke (echte en betrouwbare) groep noemen?
 1. Zijn er activiteiten en acties die deze authenticiteit ontwikkelen?
 2. Hoe draagt deze authenticiteit bij aan de realisatie van natuur inclusieve landbouw?

- b. *Veiligheid en ondersteuning – terugtrekken*
 - i. Voel je je ondersteund door het collectief?
 1. Wat kan er gebeuren om deze ondersteuning toe te laten nemen?
 2. Wat voor soort ondersteuning is er gebruikt in de natuur-inclusieve landbouw implementatie?
- c. *Toegang tot middelen in het netwerk*
 - i. Welke voordelen hebben leden door onderdeel uit te maken van het collectief?
 1. Zijn deze voordelen voor alle leden?
 2. Hoe zijn deze voordelen gebruikt in de implementatie van natuur-inclusieve landbouw?
 3. Wordt er iets gedaan om de toegang tot deze netwerken toe te laten nemen?
 1. Wat wordt er dan gedaan?
- d. *Lessen voor andere collectieven*
 - i. Met bovenstaande thema's in gedachte, wat zou je benoemen als DO bij ontwikkelen en toe laten nemen van doelen, waarden, ondersteuning en de toegang tot middelen?
 - ii. En wat zou je een DON'T noemen?

3. Overbruggend sociaal kapitaal

- a. *Nieuwe ideeën, informatie en toegang tot middelen van andere netwerken – blokkeren en risico op groepsconflict*
 - i. Zijn er interacties met andere collectieven?
 1. Hoe vaak zijn de interacties?
 2. Wat is het doel/ wat is er gedaan in deze interacties?
 3. Wat is een reden dat ervoor zorgde dat er meer interacties plaatsvonden? Of wat zou hiertoe moeten leiden?
 4. Hoe nemen deze interacties het thema van natuur-inclusieve landbouw mee?
 - ii. Zijn er meetings met andere collectieven?
 1. Hoe vaak zijn deze meetings?
 2. Wat is het doel/ wat wordt er gedaan in deze meetings?
 3. Wat is een reden dat ervoor zorgde dat er meer meetings plaatsvonden? Of wat zou hiertoe moeten leiden?
 4. Hoe nemen deze meetings het thema van natuur-inclusieve landbouw mee?
 - iii. Hebben de meetings of interacties als specifiek thema om ideeën uit te wisselen, toegang tot middelen of andere informatie delen tussen de collectieven?
 1. Wat is er nodig om deze thema's in de meetings tussen de collectieven naar voren te brengen?
 2. Wat is er nodig om deze thema's in de interactie tussen de collectieven naar voren te brengen?
- b. *Creatie van wederkerigheid en vertrouwen tussen de periphere netwerken lokaal – roddelen en vijandigheid*
 - i. Wanneer ervaar je wederkerigheid tussen de leden van het collectief?
 1. Wat zou er gedaan kunnen worden om deze wederkerigheid toe te laten nemen?
 - ii. Wanneer ervaar je wederkerigheid tussen het netwerk de collectieven?

1. Wat zou er gedaan kunnen worden om deze wederkerigheid toe te laten nemen?
- iii. Zou je zeggen dat er vertrouwen is tussen de leden?
 1. Wat kan er gedaan worden om dit vertrouwen te doen toenemen?
- iv. Zou je zeggen dat er vertrouwen is tussen de collectieven?
 1. Wat kan er gedaan worden om dit vertrouwen te doen toenemen?
- v. Op welke manier is wederkerigheid en vertrouwen belangrijk in het collectief?
 1. Op welke manier helpt het om natuur-inclusieve landbouw in te begrijpen in de landbouwpraktijken?
- c. *Maakt het mogelijk om collectieve actiemogelijkheden onder verschillende netwerken – risico op afdwingen van vooroordelen onder lokale actoren*
 - i. Op welke manier ervaar je collectieve actie, gezamenlijke beweging, naar de doelen in het collectief?
 1. Wat heeft geleid tot deze collectieve actie?
 2. Op welke manier zou je meer collectieve actie willen hebben?
 3. Hoe komt natuur inclusiviteit in de landbouw terug in de collectieve actie?
 - ii. Op welke manier ervaar je collectieve actie, gezamenlijke beweging, naar doelen met andere collectieven?
 1. Wat heeft geleid tot deze collectieve actie?
 2. Op welke manier zou je meer collectieve actie willen hebben?
 3. Hoe komt natuur inclusiviteit in de landbouw terug in de collectieve actie?
- d. *Lessen voor andere collectieven*
 - i. Met bovenstaande vragen in gedachten, wat zie je als een DO voor andere collectieven als het gaat om meetings, interacties met andere collectieven, de creatie van wederkerigheid en vertrouwen en collectieve actie?
 - ii. Wat zie je als een DONT op deze thema's?

4. Koppelend sociaal kapitaal

- a. *Inbedding in een groter netwerk*
 - i. Voel je je verbonden aan of in een groter netwerk?
 1. Is dit lokaal, regionaal?
 - ii. Op elke manier ervaar je een connectie of link naar of in een groter netwerk?
 1. Wat zie je als toenemende of afnemende activiteiten of events voor deze connectie?
- b. *Toegang tot externe middelen – formele sancties*
 - i. Op welke manier heb je toegang tot externe middelen in het grotere netwerk?
 1. Wat voor middelen moet ik hierbij aan denken?
 2. Wat zijn de regels die gelden voor deze middelen?
 - ii. Is deze toegang toegenomen?
 1. Ja: hoe komt dat?
 2. Ja: Heeft iemand een bepaalde rol aangenomen? Wat voor rol was dit?
 3. Ja/Nee: Op welke manier zou je meer toegang tot middelen willen hebben?
 4. Nee: wat zie je als stappen die gemaakt moeten worden op de toegang tot middelen mogelijk te maken?
 - iii. Hoe is de toegang tot middelen gebruikt voor de implementatie van natuur-inclusieve landbouw?

- c. *Creatie van wederkerigheid en vertrouwen onder actoren en representatieve van formele instituties – dominantie of een project*
 - i. Is er vertrouwen en wederkerigheid onder de actoren
 - ii. Hoe heeft zich dit ontwikkeld afgelopen jaren?
 - 1. Wat had er meer gekund?
 - iii. Hoe is dit gebruikt voor NiL implementatie?
- d. *Lessen voor andere collectieven*
 - i. Met de bovenstaande vragen in gedachte; wat zou je zien als een DO als het gaat om inbedding in een groter netwerk van actoren, toegang tot externe middelen, creatie van wederkerigheid en vertrouwen onder de actoren?
 - ii. Wat zie je als een DON'T?

Appendix B: List of interviews

Transcript number	Organisation	Date interview
1	Agrarische Natuur Drenthe	4th of May 2021
2	Collectief Súdwestkust	18th of May 2021
3	Noardlike Fryske Wâlden	19th of May 2021
4	Agrarische Natuur Drenthe	4th of May 2021
5	Agrarische Natuur Drenthe	6th of May 2021
6	Noardlike Fryske Wâlden	10th of May 2021
7	Noardlike Fryske Wâlden	10th of May 2021
8	Noardlike Fryske Wâlden	11th of May 2021
9	Collectief Súdwestkust	12th of May 2021
10	Collectief Súdwestkust	12th of May 2021
11	Living Lab Fryslan	17th of May 2021