The role of social and intellectual capital in the collective delivery of landscape-scale environmental improvements: Lessons from the Countryside Stewardship Facilitation Fund

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Abstract

Complex agri-environmental issues cannot be solved through the work of an isolated farmer; rather, tackling these issues requires groups of farmers and land managers to work together, engaging with more sustainable practices. To ensure their work is effective, individuals must form a cohesive group in which all members are prepared to work towards a shared goal. The Countryside Stewardship Facilitation Fund (CSFF) provides an intentional investment in the development of social and intellectual capital in farmer and land manager groups in England, such that they may work together successfully. This thesis examines the work of four CSFF groups to understand the extent to which group membership prepares individual farmers and land managers for collective action using Nahapiet and Ghoshal's theory of social and intellectual capital and the organisational advantage. It draws on the findings from 21 interviews with farmers and land managers, four interviews with group facilitators and four interviews with staff from group partner organisations. In addition, participant observation was conducted at six group events to examine group relationships and the process of intellectual capital exchange. The results build on previous findings which demonstrate the importance of social capital in the collective management of natural resources. Specifically, this work explores the role of the facilitator in social capital development, the importance of continuity during group development, the drivers of, and barriers to, the combination and exchange of intellectual capital, and the preconditions required for collective action to occur. The findings are used to develop an extension of Nahapiet and Ghoshal's framework. This thesis demonstrates that the development of social, intellectual, and natural capital are interdependent. It argues for policy which better supports the formation of relationships in which farmers and land managers feel able to work with their peers to deliver landscape-scale environmental change.

Author’s declaration

I declare that the work in this thesis was carried out in accordance with the regulations of The University of Gloucestershire and is original except where indicated by specific reference in the text. No part of the thesis has been submitted as part of any other academic award. The thesis has not been presented to any other education institution in the United Kingdom or overseas.

Any views expressed in the thesis are those of the author and in no way represent those of the University

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List of abbreviations

AES	Agri-environment schemes
AONB	Area of Outstanding Natural Beauty
bTB	Bovine tuberculosis
CCRI	Countryside and Community Research Institute
CS	Countryside Stewardship
CSFF	Countryside Stewardship Facilitation Fund
Defra	UK Government Department for Environment, Food and Rural Affairs
EA	Environment Agency
ELMS	Environmental Land Management Scheme
FC	Forestry Commission
HLS	Higher Level Stewardship
LNR	Local Nature Recovery
LR	Landscape Recovery
NCA	National Character Area
NE	Natural England
NGO	Non-governmental organisation
NIA	Nature Improvement Area
NRN	Nature Recovery Network
RPA	Rural Payments Agency

CHAPTER 1 – INTRODUCTION

1.0. Introduction

The 2011 Natural Environment White Paper advocates joined-up action at the local and national scale to create resilient ecological networks. It argues that 'we must repair the damage done to our natural environment by restoring natural connections that have been broken' (Department for Environment, Food and Rural Affairs (Defra), 2011: 15). What is overlooked in this call to action, however, is the decline of robust social connections in which actors are prepared to work with one another to deliver the improvements so urgently required. The social capital nurtured through these relationships, Pretty and Ward (2001) argue, is an essential prerequisite for sustainable and equitable improvements to the natural environments Defra aim to repair.

Solutions which require collective approaches will require a significant change in behaviour for many farmers and land managers. Previous agri-environment schemes (AES) have paid individuals for the benefits they were able to deliver on a single-farm basis. This thesis will argue that we must put the development of social and intellectual capital at the heart of what is an increasingly polarised public debate on the condition of our rural landscapes. Rather than malign those we consider to be on the other side of the debate, we must create spaces in which individuals with opposing identities and norms may come together and discuss the future of their local landscape. It will explore how these spaces may allow people to develop social relations which are fundamental to the delivery and maintenance of landscape-scale environmental improvements. This thesis presents the findings of work with four Countryside Stewardship Facilitation Fund (CSFF) groups to demonstrate how the mechanisms supported through this intervention may usefully allow actors to access learning opportunities and act collectively through their new relationships for the benefit of the environment at a landscape scale.

1.1. Background and motivation

AES have been employed in England since the 1980s. These schemes aim to encourage farmers and land managers to engage in behaviours that enhance

the environment, including delivering improvements to biodiversity and protecting natural resources (Hodge and Reader, 2007). However, research has also demonstrated that complex agri-environmental issues, such as those just described, cannot be solved through the work of an isolated farmer or land manager. Rather, tackling these issues requires groups of farmers and land managers to work together, engaging with more sustainable practices, to address the issue at the required scale (Leeuwis, 2004).

There has been increasing academic interest in the work of farmer and land manager groups over the last two decades. Research has explored how such groups may collectively respond to diffuse environmental pressures and deliver social and environmental benefits (Mills et al., 2011; Emery and Franks, 2012; McKenzie et al., 2013; Franks et al., 2016). Although academic interest in such approaches to land management was growing, and collective approaches were becoming common in other countries, policy and practice in England continued to focus largely on changing individuals' environmental behaviours at the scale of a single holding, with limited options which specifically supported actors to work together (but see Hall, 2008; Franks et al., 2011, and Franks and Emery, 2013). The publication of Lawton et al.'s *Making Space for Nature* report in 2010 placed the need for collective action in support of natural capital in the spotlight and signalled the beginning of change in policy approaches to supporting collective land management.

Lawton et al.'s (2010) report presented a stark picture for England's natural environment and called for 'more, bigger, better and joined' (2010: viii) responses to its fragmentation. Following the Lawton Report's publication, Defra produced *The Natural Choice: securing the value of nature* (2011), a White Paper which placed emphasis on protecting and enhancing the natural environment, improving people's connection with nature, and developing a green economy. Within this White Paper, Nature Improvement Areas (NIAs) were announced. NIAs were established as a mechanism through which Lawton et al.'s call for 'more, bigger, better and joined' approaches to improving the natural environment could be met, with a focus on creating joined up, resilient ecological networks. The White Paper includes a specific

commitment to learning from the NIAs (Paragraph 2.30, page 21). This commitment is important, as the development of the CSFF intervention studied in this thesis can be traced to learning from successful NIAs, which, crucially, demonstrated the value of partnership working in delivering shared environmental outcomes within an English context (White et al., 2015).

Subsequent policy developments have continued to position cooperation and collaboration as essential in delivering environmental improvements. The 25 Year Environment Plan (Defra, 2018) suggested that there was to be help for farmers and land managers to work together and introduced the concept of a Nature Recovery Network (NRN). Defra's Farming for the Future: Policy and Progress Update (2020a) introduced the three-tiered Environmental Land Management Scheme (ELMS). Within these documents, there is a commitment to learning more about the most effective mechanisms for cooperation and collaboration through Tests and Trials. These projects seek to provide evidence which will inform the final design of ELMS. There is much to be learned about the fundamental requirement for well-developed social networks in collective approaches to environmental issues from examining the CSFF scheme itself, which began in 2015, three years prior to the start of the first Tests and Trials projects. Thus, the CSFF is the policy intervention on which this thesis shall focus. In particular, it is interested in the CSFF's influence on social and intellectual capital development, as these are considered to be prerequisites for improvements in natural capital (Pretty and Ward, 2001).

This chapter will now provide an overview of the CSFF, before presenting the research rationale and an overview of the theoretical and methodological approaches employed in the research. It will then state the research aim and objectives, before summarising the thesis structure.

1.2. Countryside Stewardship and the Countryside Stewardship Facilitation Fund

Countryside Stewardship (CS) is the most recent AES in England. CS is a competitive scheme through which farmers and land managers in England are provided with financial incentives to deliver a wide range of environmental

improvements (Defra, 2020b). The list of priorities for CS is as follows: biodiversity (main priority); water quality (important priority); flood management; the historic environment; landscape character; genetic conservation; educational access, and climate change adaptation and mitigation (Bennett et al., 2015). It is one of four elements of the 2014 to 2020 Rural Development Programme for England and was launched in its current form in 2015. The CS remains active today, with the first five-year agreements starting on 1st January 2016 and the latest round of agreements due to begin in January 2023. Through using a targeted approach, it is hoped that CS agreements will deliver the right environmental management in the right places. To ensure this occurs, a targeting framework consisting of around 400 national datasets, drawn from several delivery bodies such as Natural England (NE) and the Environment Agency (EA), was designed to identify the highest environmental priorities for a given National Character Area (NCA) (Bennett et al., 2015). Each of the 159 NCAs represents an area of distinct and recognisable character. The guidance in each NCA profile is designed to ensure that land management and other activities within the NCAs' natural boundaries strengthen their character and resilience to environmental pressures (Natural England, 2022). Bespoke targeting information was also developed for each holding within these NCAs, to ensure the right options were delivered through each agreement and to enable multiple benefits to be delivered on each farm (Bennett et al., 2015).

This research will focus on the CSFF element of this iteration of CS. The CSFF sits in the mid-tier of the CS scheme and builds on the principles of NIAs to bring together land managers from a minimum of four holdings to deliver shared environmental outcomes that extend beyond those expected when land managers act in isolation (Bennett et al., 2015). As of 2022, 177 groups have received at least three years of CSFF funding. Over the last seven years, facilitators have been responsible for coordinating a cumulative total of over 3300 holdings in delivering environmental change (Short et al., forthcoming). The CSFF provides a mechanism enabling a bottom-up approach to local environmental management, allowing groups to share their expertise with one another and in so doing encourage better option deployment and alignment

across adjoining holdings (Bennett et al., 2015; Franks, 2019). A CS agreement is not a requirement for group membership, although it is encouraged and facilitators may provide support with CS applications to ensure their group members' agreements align with group priorities.

Research has indicated that a facilitated approach to AES such as the CSFF is a cost-effective way to deliver complex or multiple landscape-scale environmental objectives (Bennett et al., 2015); however, the extent to which continued facilitation is sustainable is questionable (Prager, 2022). The presence of an individual responsible for organising the group attends to farmers' preferences. As Emery and Franks (2012) found, farmers want to be involved in delivering sustainable land management and have a sense of ownership of its outcomes but are not prepared to organise this on behalf of others too. Facilitators must demonstrate how they will foster cooperation and the transfer of knowledge within their groups. In addition, their work must lead to new activities being undertaken by group members to qualify for CSFF funding (ADAS, 2018; RPA, 2022). There is an expectation that facilitators can capitalise on existing networks, to take advantage of and selectively reinforce loosely connected networks to bring together diverse farming and land management knowledge. This may include maintaining and enhancing links with current local partnerships and developing relationships with local NE officers to ensure their work complements that of other local projects and the long-term environmental goals for an area (RPA, 2022). This thesis will explore the conditions required within CSFF groups for members to set and achieve landscape-scale goals.

1.3. Research rationale

Although farmer groups have existed in several forms before the CSFF started in 2015, Emery and Franks (2012) argue that UK-based groups have received little attention in both research and policy compared to their international counterparts. Given the changing policy context, addressing this oversight is important, as we must understand how to improve participants' opinions of managing the land together with their neighbours. It is even more vital when we consider that ELMS will provide two schemes in which farmers and land

managers will have the opportunity to work alongside one another to deliver solutions to landscape-scale environmental issues. Groups of farmers working to address local environmental priorities will be supported through an enhanced CS scheme (formerly known as Local Nature Recovery (LNR)), while Landscape Recovery (LR) agreements will focus on long-term, landscape-scale projects, such as peatland restoration. Defra have demonstrated their interest in potential mechanisms for cooperation and collaboration through their Tests and Trials. From 2020 onwards, over 700 farmers and land managers have been involved in projects which specifically aim to explore models for collaboration in the new schemes. These Tests and Trials have shown that facilitation plays an essential role in effective collaboration (Defra, 2020c; 2020d; 2021a; 2021b). As suggested in section 1.1, this research aims to explore the extent to which this has been true for groups which were developed through the CSFF, and, to explore the enablers and barriers to collective action in more detail. Although Defra's commitment to developing alternative approaches through the Test and Trials projects is commendable, this thesis will argue that learning from the CSFF may also be usefully employed in the development of these approaches.

To do so, it builds on Jones et al.'s (2020) and Breyer et al.'s (2020) reviews of the CSFF, particularly their findings regarding the significance of social capital development in the CSFF groups. Breyer et al. (2020) found that the presence of bonding social capital improved group members' knowledge and led to an increased engagement with environmental activities. This thesis will explore the development of social relations which support collective action in more detail, to argue that social benefits are not simply 'nice to have', but that they should be considered a fundamental element of any scheme which requires individuals to work together with others whom they perceive to have different priorities to their own. It will argue that this is particularly so if a group is to deliver sustained environmental improvements.

This thesis provides a detailed exploration of the development of social capital and its specific interrelation with processes of intellectual capital exchange using Nahapiet and Ghoshal's (1998) social and intellectual capital framework.

In addition, the thesis will explore how CSFF groups may provide a space in which collective action is facilitated, as social capital has been shown to positively influence actors' willingness to engage in collective action (Mills et al., 2011) and collaboration for landscape-scale benefits is a key aim of the scheme. In so doing, it provides an insight into what de Jong (2010: 4) describes as a 'black box': the relationship between social capital and learning, and how this may lead to innovative ways of working including those which require collaboration. Finally, it will explore the impacts of the Covid-19 pandemic in the CSFF groups, particularly regarding issues relating to virtual communication. The following section will introduce the theoretical perspective and analytical framework of this work.

1.4. Theoretical perspective

The following section provides more detail on the specific theories and concepts used in the research and introduces the framework for analysis.

1.4.1. Social capital

Research on social capital in sociology and allied disciplines has grown exponentially since the late 1990s. Its prominence means it is difficult to provide a single definition; however, there has long been a focus on the resources embedded in social relationships and the values and norms associated with them (de Jong, 2010).

Various approaches to social capital are widely used in the growing body of research on farmer and land manager behaviour, learning and decision-making (e.g., Hodge and Reader, 2007; Sutherland and Burton, 2011; Mills, 2012; Flanigan and Sutherland, 2016; de Krom, 2017; Riley et al*.,* 2018; Rust et al*.,* 2020). This work focuses on farmers' social networks, their shared norms, values and identities, levels of trust, cooperation and reciprocity and how these concepts impact on farm management decisions (Ingram et al., 2013; Tsouvalis and Little, 2019). Understanding these impacts is essential in ensuring changes in AES accommodate farmers' unique motivations and behaviours and that they offer attractive options (McCracken et al*.,* 2015). AES should appeal to the multiple different farmer identities and encourage

incremental changes in their norms, values and beliefs to ensure they can accommodate the proposed changes in land management practices whilst maintaining their way of life (Tsouvalis and Little, 2019). Otherwise, Riley et al. (2018) argue, AES will be unsustainable. Attention must also be paid to farmers' individualist tendencies, born of long-held values and norms associated with being a 'good farmer' (Burton, 2004; Emery and Franks, 2012; Wynne-Jones, 2017). There is a significant need to understand how social relationships influence actors' behaviours at different scales (Thomas et al., 2020).

The use of a social capital framework in this thesis is driven by the CSFF's fundamental goal of cooperation, which is, itself, 'a fundamentally social activity' (de Jong, 2010: 1). It is, in Robert Putnam's words, 'the features of social life... that enable people to act together more effectively to pursue shared objectives' (Putnam, 1996, cited in de Jong, 2010: 21). In 2008, Hall wrote that recognising the value of social capital will be essential in achieving the UK government's policy vision for the environment. That statement remains true today and is arguably more important as we focus on collective action for environmental improvements on a larger scale. Given the fundamental importance of social relations to learning and working together, this thesis will explore whether the CSFF represents a useful mechanism through which groups may develop their social capital and the influence that this may have on their ability and willingness to share their intellectual capital and work together.

1.4.2. Intellectual capital

One of the most significant direct benefits of social capital is knowledge exchange (Inkpen and Tsang, 2005). Nahapiet and Ghoshal (1998) suggest that the facets of social capital they include in their framework combine to create the conditions required for intellectual capital exchange. They define intellectual capital as 'the knowledge and knowing capability of a social collectivity' (Nahapiet and Ghoshal, 1998: 245). This terminology aligns the concept of knowledge with other capitals, such as social capital and, crucially, economic capital, to distinguish the inherent value of knowledge, which may

otherwise be overlooked. Social learning is a key goal of the CSFF; thus, the process of intellectual capital combination and exchange is fundamental to the success of the groups funded through the scheme.

Just as social capital in farmer groups has been a focus of researchers for decades, the combination and exchange of intellectual capital within and between farmer groups, and other stakeholders in farming communities, has also been of interest (for example, Roberts, 1999; Ingram, 2008; Ingram, 2010; Dooley, 2020). More recently, researchers have addressed the growing role of information and communication technologies, including traditional websites (Bliss et al., 2018) and social media sites (Mills et al., 2019; Phillips et al., 2021; Rust et al., 2022), in knowledge exchange. Virtual knowledge exchange has become more prominent since the onset of the Covid-19 pandemic, and synchronous opportunities to learn from peers virtually is a focus of this thesis.

1.4.3. Collective action

The CSFF aims to promote working together, and in doing so, provide farmers and land managers with a local support network with whom they can plan and deliver shared actions or projects to deliver environmental improvements across multiple holdings (RPA, 2022). The importance of collective action in the management of natural resources is evident (Ostrom, 1998; Pretty and Ward, 2001); however, the interaction intensity required of actors in such action varies and can thus be represented in a continuum of coordination, cooperation and collaboration (Prager, 2015; Prager, 2022). The extent to which farmers and land managers are willing to work together on a given collective action problem will depend on a multitude of social, cultural and economic aspects.

The CSFF, and subsequent schemes developed under ELMS, represent a move towards the formalisation of working together to address landscape-scale environmental issues. It is, therefore, important that this mechanism is examined to understand the extent to which it encourages the three forms of collective action, if at all, to ensure that groups may work together effectively.

1.4.4. Nahapiet and Ghoshal's Social and Intellectual Capital Framework

Hall (2008) argues that social resources are essential and those who cannot access them are exposed to disadvantage. The CSFF represents an intentional investment in social capital to move beyond this issue and encourage the development and exchange of intellectual capital amongst farmers and land managers. To assess the influence of social capital development on intellectual capital exchange in CSFF groups, this thesis employs Nahapiet and Ghoshal's (1998) conceptual framework. Their framework ensures both the external and internal perspectives of social capital are captured in the research to deliver a meaningful synthesis of their interrelationships (de Jong, 2010). They propose that the successful development of social and intellectual capital can provide an organisational advantage, which in this thesis is considered to be the development of conditions in which actors are able to work together to deliver environmental improvements beyond their individual holdings.

Nahapiet and Ghoshal (1998) suggest that their research leaves further avenues for exploration. They conclude that there is a feedback loop from the exchange of intellectual capital to the additional development of social capital, although they recognise that further work is required to determine the nature of this loop. De Jong's (2010) work on the role of social capital in knowledge productive networks elaborates on this feedback loop and is thus employed in this research to explore the mutual development of social capital and intellectual capital. Nahapiet and Ghoshal (1998) focus on the firm as their unit of analysis; however, they broadly consider structures of social capital to be relatively bounded and focused on a joint activity and suggest that further research should be conducted with such entities. Thus, CSFF groups, with their focus on coordinating their activities for the benefit of the environment at a landscape scale, within a geographical boundary, represent an institutional setting in which their analysis may be applied.

1.5. Research aim and objectives

This thesis aims to explore the CSFF intervention to understand the role of social and intellectual capital in CSFF groups, and how these capitals contributed to collective action by these groups. As Covid-19 lockdowns required a change in our ways of working, the effects of virtual communication on the development of social and intellectual capital, and participants' willingness to engage in collective action will be analysed. The research questions are as follows:

1. How do each of Nahapiet and Ghoshal's dimensions of social capital manifest in CSFF groups?
2. How does social capital affect people's willingness to engage in the exchange and combination of intellectual capital in CSFF groups?
3. To what extent has social and intellectual capital development in CSFF groups facilitated collective action for the delivery of landscape-scale environmental outcomes?

These questions are addressed through research with four CSFF groups from four geographically distinct areas in England; the predominant farm type, habitat type and their collective goals thus differed. Following approval from the university, data collection was conducted from July to November 2021. This comprised interviewing participants and conducting participant observation at group events to ascertain how the facets of social capital influenced group members' interactions, the processes of knowledge exchange within and between groups, their partners and other organisations, and whether collective action was occurring.

1.6. Thesis structure

Chapter two provides an in-depth exploration of social capital, intellectual capital and collective action theories through a literature review. In addition, it introduces the framework for analysis employed in this thesis: Nahapiet and Ghoshal's social and intellectual capital framework. It considers how the concepts can be mapped onto the key aims of the CSFF and explores the potential impacts of lockdowns on the development of social and intellectual

capital, and group members' subsequent willingness to interact with their peers.

Chapter three provides more detail on the methodological and analytical approaches employed in this research. It begins with an explanation of why a case study approach was chosen and explores how the approach was adapted to suit Covid-19 restrictions. It then presents descriptions of each of the case study groups and the members, facilitators and staff from partner organisations who participated in interviews. It considers the challenges overcome and changes made to the research methodology as a result of the Covid-19 pandemic and offers a reflexive account of my role as a researcher.

Chapter four presents the findings from each of the case studies, examining the network structure within the groups and establishing how each of the three dimensions of social capital present themselves in the group. It explores the essential role facilitators play in developing an application for CSFF funding, the ways in which facilitators and group members encouraged others to join the group, and the potential barriers to membership. Finally, it considers how members negotiate a shared understanding of their aims, before exploring how facilitators framed this through shared narratives.

Chapter five analyses the combination and exchange of intellectual capital within the groups during group events, including participants' perceptions of the benefits and barriers to sharing their intellectual capital. In addition, the chapter considers how the events may also serve as a space for further social capital development. It explores the impacts of the Covid-19 lockdowns on the groups' ability to meet, including the different communication opportunities afforded by in-person and virtual events. Finally, it examines the value of providing group members with opportunities to meet with experts.

Chapter six analyses the research findings in relation to the literature examined in Chapter two and considers how well-aligned the case study groups' experiences are with the expectations of the CSFF scheme. This chapter is structured around each of the three research questions. First, it explores examples of the interrelationships between the facets of social

capital, and how these manifested in each of the groups. Next, it explores whether the conditions for the combination and exchange of capital were created, the types of intellectual capital exchanged in groups and how the exchange of intellectual capital was affected by a move to virtual events. The potential for collective action is then considered, first, by exploring examples of collective action and barriers to engagement discovered in this research, before positing the conditions required for collective action in agri-environmental schemes. The chapter closes with a consideration of the findings within the context of the aims of the CSFF. Broadly, it explores the themes of time and continuity, identity, narrative, knowledge exchange and collective action.

Chapter seven provides the research conclusions including an overview of the key findings and a consideration of the usefulness of the conceptual framework. In addition, it provides a reflection on the advantages and disadvantages of the research methodology and recommendations for future work in academic research, policy and practice.

1.7. Conclusion

This introductory chapter has demonstrated the requirement for an exploration of the social processes through which knowledge and a willingness to engage in collective action are developed in groups which aim to deliver landscape-scale environmental benefits. It has provided an overview of the context in which the CSFF scheme was developed and the theories which will be employed in this research.

Chapter Two will examine the conceptual development of social capital before focusing on Nahapiet and Ghoshal's framework, which is central to this thesis, and how the various facets of social capital they discuss are presented in literature on social capital in farming. It explains the central role that social capital plays in learning processes and explores current literature on learning in the farming sector. Finally, it considers the multiple modes of collective action which occur in land management; focusing on the different types of, and motives for, action. To do so, it examines recent literature on coordination,

cooperation and collaboration in farming to determine farmer and land manager motivations to participate in such approaches and explores the current evidence generated through Defra’s ongoing Tests and Trials.

CHAPTER 2 – LITERATURE REVIEW

2.0. Introduction

As Pretty and Ward (2001) argue, social capital is a prerequisite for improving natural capital; however, the social transformation required of farmers, land managers and others across the agricultural sector in pursuit of environmental improvements at the landscape scale is significant. With the scale of such a transformation in mind, Hall (2008) argues that it is essential policy is attentive to the social aspects of change in a sector that is socially embedded, particularly as they have often been overlooked. With its focus on relationships and the development of shared visions, the CSFF may be considered a 'well-crafted, social mechanism' (Hall, 2008: 15) which has 'the potential to radically change land management' (Hall, 2008: 15).

The concept of social capital has been used in farming literature for decades to explore drivers and barriers to decision-making in farming which cannot readily be explained by financial or economic reasons. It has been employed in recent studies which aimed to evaluate the success of the CSFF (Jones et al., 2020; Breyer et al., 2020; Short et al., forthcoming). Jones et al. (2020) and Breyer et al. (2020) provide evidence to suggest that the development of social capital has a largely positive influence in CSFF groups. They suggest it is influential in processes of behaviour change and knowledge exchange, and that it encourages group members to engage in environmental action beyond that which they are already carrying out.

These conclusions informed the thesis aim (to explore the relationship between social capital, intellectual capital and collective action in more detail), and the choice of Nahapiet and Ghoshal's (1998) conceptual framework. Their work explores how the development of social capital directly contributes to the conditions required for learning to take place. This thesis employs their approach to understand the direct linkages between social capital and intellectual capital exchange processes. In addition, it explores further literatures on collective action theory to incorporate them into Nahapiet and

Ghoshal's framework, arguing that the 'organisational advantage' they propose occurs through the coevolution of social and intellectual capital which places farmer and land manager groups in a position to work together.

Social capital is central to this thesis; however, its development and measurement has been contested. Thus, this chapter begins with an exploration of the concept of social capital, before setting out the conceptual framework for this research. This framework is based on Nahapiet and Ghoshal's (1998) three dimensions of social capital and their explanation of the concepts at work in these dimensions which encourage the development of intellectual capital. The development and exchange of intellectual capital in farming communities is examined before literature on collective action in farming is reviewed. Given the rise in virtual communication as a result of the periods of lockdown in 2020 and 2021, the impacts of working together online are considered throughout these theoretical explorations.

2.1. Social Capital

2.1.1. The contested nature of social capital

Social capital is an essentially contested concept which, by its nature, is difficult to define (Woolcock, 2001; Adler and Kwon, 2002). Interest in the term grew rapidly throughout the 1980s and 1990s (Pretty and Ward, 2001; Woolcock, 2001). This was in part a result of the work of three key authors – Pierre Bourdieu, James Coleman and Robert Putnam - and as a result of a growing interest in the social dimensions of economic development (Woolcock, 2001; Claridge, 2004; Hall, 2008). The term's broad conceptualisations mean it lends itself to diverse application; it has been embraced in numerous fields of research, including those on development, natural resource management and health (Pretty and Ward, 2001; Claridge, 2004).

This growth in interest led to many measures and corresponding theories, but little consensus as to a definition (for a comprehensive overview of definitions see Adler and Kwon, 2002: 20) due to its diverse application (Portes, 1998). The key focus is on social relations and the mutual benefits which arise from

cooperation (Woolcock, 2001); however, the core concepts used in social capital research will depend on a study's specific context. These concepts include, but are not limited to, social networks, trust, rules and norms (Hall, 2008). Studies tend to operationalise several of these concepts as each alone cannot fully capture social capital in its entirety (Claridge, 2004). As section 2.2 will explain, it is for this reason that a multidimensional approach was chosen for this work.

There have been several suggestions for dealing with the issues related to the term, including disentangling micro-, meso- and macro-level issues, focusing solely on a relational definition and dismissing the definitional debate altogether (Woolcock, 2001). Through its becoming 'all things to all people' (Woolcock, 2001: 69), critics argue that the integrity of social capital has been undermined. This lack of definitional clarity can be cause for concern in empirical sociological research due to its impacts on the robustness of the concept (Claridge, 2004).

Despite the differing disciplinary and empirical approaches, it is possible to draw together a definition based on their commonalities. Woolcock (2001) argues for the following definition based on studies' overlapping findings from an 'increasingly solid empirical foundation' (2001: 70):

> *Social capital refers to the norms and networks that facilitate collective action - Woolcock, 2001: 70.*

Nahapiet and Ghoshal (1998) draw on this empirical foundation in their thesis on the organizational advantage to provide their definition of social capital:

> *We...define social capital as the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit – Nahapiet and Ghoshal, 1998: 243.*

Theoretical integrity is retained through authors' continued focus on the importance of social relationships and the key concepts which contribute to its maintenance (Nahapiet and Ghoshal, 1998; Pretty and Ward, 2001; Claridge,

2004; Hall, 2008). Given the focus of this thesis is on social capital's potential contribution to agri-environmental policy, and in particular how it can facilitate collective action, it is useful to state the definition of social capital most often used by policymakers, that of Robert Putnam (Fisher, 2013). Putnam states that social capital is the:

> *Features of social organisation such as networks, norms and social trust that facilitate coordination and cooperation for mutual benefit - Putnam, 1995: 67.*

It is on Putnam's definition of social capital that this work shall build. To do so, it will examine each of the facets of social capital in Nahapiet and Ghoshal's framework, their impact on the combination and exchange of intellectual capital and the potential for collective action which arises from the interrelation of the two capitals.

2.1.2. Issues relating to social capital

Woolcock argues that it is essential to recognise that 'social capital has costs as well as benefits' (2001: 68). We possess a sociological bias which sees us recognising the good which arises from sociability and attributing negative attributes to those who behave based on their self-interest (Portes, 1998). This bias, Portes argues, has led research to over-emphasise the good which comes from high levels of social capital, without considering the negative issues which may arise. Woolcock's conclusions corroborate with Portes' argument, stating that those with whom we share social ties may just as easily constitute a poor influence on our decisions and behaviours. Groups with high levels of social capital may not be open to new information and innovation (Nahapiet and Ghoshal, 1998). Ferlander (2007) comments on its potential to reinforce existing hierarchies and both Bourdieu and Coleman provide insight into the impacts of unequal power relations on individuals' experiences of social capital (Hall, 2008).

Woolcock (2001) also demonstrates the issues that arise when there is a lack of social capital: where an individual does not have access to social ties, they are unlikely to benefit from information and opportunities. Social isolation is an

increasingly recognised issue in the agricultural industry. Recent research on ‘hard-to-reach’, or easily overlooked, farmers shows how negative experiences with previous AES, lack of trust and practical and personal barriers lead to lower engagement (Hurley et al., 2020; Lyon et al., 2020). Emery and Franks (2012) found that farmers who declined to be interviewed were also less likely to participate in AES. This finding reflects Hall’s (2008) comment that isolated individuals are likely to be beyond policy reach. Their ability to adapt in the face of change may be significantly hindered in comparison with peers who may be able to access the organizational advantage (Nahapiet and Ghoshal, 1998).

A lack of consensus regarding the definition of social capital has also had an impact on its measurement. Authors generally agree that social capital itself cannot be measured, and instead must be captured through proxy indicators which can be interpreted by researchers (Claridge, 2004). Grootaert et al. (2004) provide pre-tested survey questions which they propose may be used in empirical work to move towards greater conceptual clarity. Mills et al. (2021) published social indicators that can be used to assess the social outcomes of AES agreements. They identified two sets of indicators, those relating to engagement factors (19 indicators) and those concerned with social outcomes (10 indicators). Both Grootaert et al.’s (2004) survey and Mills et al.’s (2021) indicators are drawn upon in the main interview schedule for this PhD; this is explored further in section 3.1.

This thesis recognises that the term social capital brings together several significant sociological concepts (Claridge, 2004). Thus, section 2.2. seeks to explore each of these concepts individually through Nahapiet and Ghoshal’s (1998) dimensional model of social capital. Through focusing on each of these concepts individually, it is possible to analyse the conceptual solutions offered by several approaches and draw together recent work on social capital in agriculture.

2.2. The Dimensional Approach

2.2.1. Introduction

Putnam observes that 'social capital is not a unidimensional concept' (1995: 77), therefore, it must also be conceptualised in this way. Studies must not simply attend to a single dimension, nor must they fail to recognise the multi-disciplinary nature of the term (Claridge, 2004). Nahapiet and Ghoshal (1998) developed a dimensional model of social capital (Figure 1) as a framework to analyse how intellectual capital developed in firms. In their paper, the authors state that despite their focus on the firm, social capital exists in other bounded structures and that these boundaries tend to emerge from an external physical or social basis for grouping.

The development of social capital also requires a focus, or an entity around which joint activities are organised. In this research, this entity was the CSFF group and the external basis for grouping was the wider policy context which recognised the need for collective action in land management. Given one of the key aims of the CSFF was to provide farmers the opportunity to share intellectual capital, this framework provides a useful structure through which to analyse how changes in social capital within the groups contributed to the exchange of intellectual capital (considered by Nahapiet and Ghoshal to be a social collectivity's knowledge and knowing capability (1998: 245)), and subsequently, how the coevolution of these capitals may contribute to further group action.

Based on Putnam's (1995) observation and call for the clarification of the dimensions of social capital, Nahapiet and Ghoshal (1998) draw together several different facets of social capital to distinguish three overarching dimensions: structural, cognitive and relational (Figure 1).

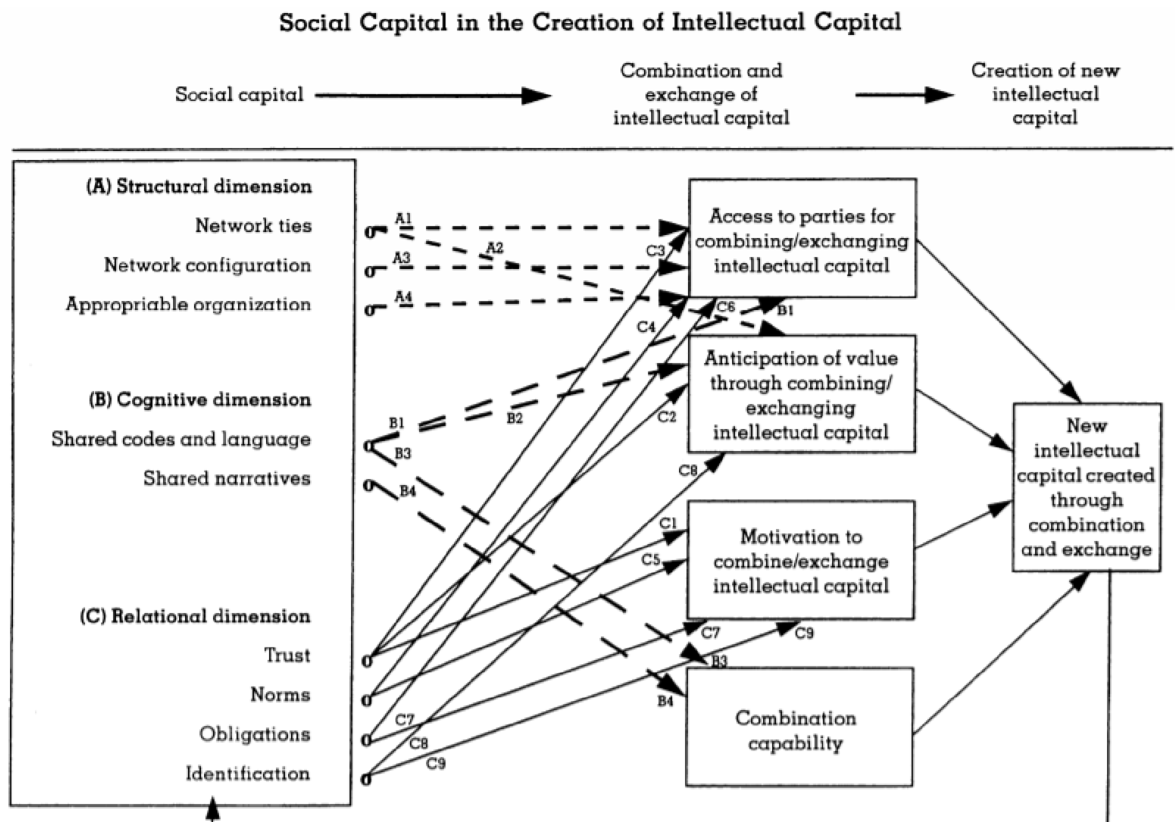

Figure 1: Nahapiet and Ghoshal's framework, showing the three dimensions of social capital and their influence on the conditions required for the development of new intellectual capital (1998: 251).

Their distinction between structural and relational dimensions stems from Granovetter's work on embeddedness, where structural embeddedness refers to the structure of a social network and the properties of a social system and relational embeddedness refers to the personal relationships developed through interaction (Nahapiet and Ghoshal, 1998). Nahapiet and Ghoshal (1998) chose to include the cognitive dimension of capital to capture important assets they found were yet to be included in the social capital literature: shared representations and systems of meaning. The framework shows that the social relationships which develop through these three dimensions have an impact on the development of intellectual capital.

This framework was chosen as it provides a structured lens through which to examine the social capital development which is known to occur in farmer groups (Mills, et al., 2011; Mills, 2012; Rust et al., 2020). It is used as an analytical tool to explore whether the facets of social capital are present in the

case study groups of this research and to explore how the facets manifest. Research also shows that prior to intellectual capital exchange occurring in farmer groups, actors must have significant levels of social capital (Mills et al., 2011; Rust et al., 2020). Nahapiet and Ghoshal's (1998) framework offers four conditions which must be met for exchange and combination to occur. They also distinguish the types of knowledge which may be shared in organisations. Their theorisation is employed in the analysis to address the second research question of this thesis by examining participants' willingness to engage in processes of knowledge exchange. Nahapiet and Ghoshal suggest in their framework that the combination and exchange of intellectual capital in groups can lead to the development of further social capital, and these processes have also been found to improve capacity for collective action (Mills et al., 2011). Collective action is an addition to the framework presented in Figure 1. It has been included as the literature shows that there is a link between social and intellectual capital and individuals' capacity to engage in collective action (Putnam, 1995; Ostrom, 2000; Ostrom, 2010; Mills et al., 2011). This link, and the recognition within the CSFF scheme that collective action is required to reach landscape-scale goals led to the development of the third research question of this thesis, which will explore the extent to which the CSFF mechanism has prepared groups for collective action.

This chapter will now explore the sociological concepts in each dimension in more detail. A significant amount of literature relating to social capital in farming has been published since Nahapiet and Ghoshal proposed their original framework in 1998. This additional work can be drawn into and explored in the context of the framework. It is also important to consider literature which examines virtual teams through Nahapiet and Ghoshal's framework, as CSFF groups were required to use virtual communication during the 2020 and 2021 Covid-19 national lockdowns. The chapter will then explore the concept of intellectual capital, or knowledge and knowing capability, before concluding with an explanation of social and intellectual capitals' contributions to collective action and how this may be applied in the context of CSFF groups.

2.2.2. The Structural Dimension

The structural dimension of social capital covers network ties, structure and appropriable organisation. This dimension includes the bonding, bridging and linking social capital present in any given network and captures the impacts of power relations on group actions (Woolcock, 2001). It also considers how previously developed social capital can allow actors access to other parties for exchanging knowledge (Nahapiet and Ghoshal, 1998).

2.2.2.1. Network ties

Networks consist of 'actors tied to one another through socially meaningful relations' and form channels for information exchange (Prell et al.*,* 2009: 503). Social capital is not a given; research has repeatedly shown that it relies upon the continued efforts of individuals to maintain and access their social networks in order to contribute to the efficacy of their relationships (Portes, 1998; Onyx and Bullen, 2000; Adler and Kwon, 2002; Flanigan and Sutherland, 2016; Franks, 2019). These relationships must be trusting and based on positive emotions which are reciprocated (Adler and Kwon, 2002; Claridge, 2004). The relational facets of trust and reciprocity are explored further in section 2.2.4.

The proposition that resources may be accessed through network ties is fundamental to social capital theory (Nahapiet and Ghoshal, 1998; Adler and Kwon, 2002). Social relationships provide us with access to other parties who may hold information which is of value to us, thus allowing us to achieve objectives which we may not otherwise be able to achieve (Inkpen and Tsang, 2005). Our knowledge of a specific network of individuals will affect what we know and can be used strategically to reduce both the time and financial costs associated with accessing information (Nahapiet and Ghoshal, 1998; Moschitz et al.*,* 2015). In the farming literature, there are many examples of networks, including farmer discussion groups, farmer-advisor relationships and farmer-organisation relationships. Baird et al. (2016) state that the ties a farmer or land manager keeps influence their decision-making and the success of the land management practices they choose. However, there is also an increasing awareness of those who do not have access to ties which can improve their

work and allow them to engage in schemes such as the CSFF (Hurley et al., 2022). Hurley et al. (2022: 7) acknowledge that when levels of social capital, which they deem to be 'characterised by rich networks', are low, a farmer or land manager may be disengaged. Their research also highlights the significance of trust and norms in an individual's decision to engage; these facets will be discussed in more detail in section 2.2.4.1 and section 2.2.4.2 respectively. The issue of engagement in a network has become particularly apparent through Defra's co-design approach to ELMS; Hurley et al. (2022: 3) found that it has been difficult to engage individuals beyond the 'usual suspects'.

2.2.2.2. Network configuration

The overall structure of network ties can influence the potential for intellectual capital combination and exchange. The bonding, bridging and linking approach to such ties is widely used in rural sociological research. Hall (2008) argues that this is a result of this approach's simplicity and its ability to capture structural inequalities. Each of these configurations will now be explored in more detail.

2.2.2.2.1. Bonding ties

We are born into a network of ties which will influence our identity and the types of people we have interpersonal relations with. In agricultural contexts, these ties influence the success and sustainability of agricultural practices (Baird et al., 2016). Perhaps most significant to Nahapiet and Ghoshal's (1998) conceptualisation of social capital and in the context of the aims of the CSFF, the close network ties developed through bonding social capital function as important networks for peer-to-peer advice (Baird et al., 2016). Bonding social capital usually manifests at the local level and is considered an 'internal' capital, shared amongst individuals in a cohesive group (Adler and Kwon, 2002; Hall, 2008). Within these dense networks, frequent interactions lead to the development of both cognitive and relational social capital (Nahapiet and Ghoshal, 1998).

Although bonding capital provides many benefits to members of a network, it can cause issues. If a network exhibits high levels of bonding social capital,

members may choose to bar others from joining (Portes, 1998). Within networks of close ties, members may also experience greater levels of free-riding which in turn, leads to lower overall group effectiveness. Rural networks have been described as homophilic. On the one hand, this is highly beneficial as it allows for the exchange of tacit information, often through experiential means (Prell et al., 2009; Skaalsveen et al., 2020). However, this trait also leaves networks at risk of negative reinforcement or a lack of access to information which allows them to develop. Riley et al. (2018) suggest that pre-existing farmer relations may pose a barrier to the development of collaborative management; however, there is also concern that the very relationships Riley et al. describe are being eroded as the farming sector evolves, as new technologies and practices mean neighbours do not need to rely on one another as much as they once would have done (Rust et al., 2020).

Chayko (2008) found that social support is more common in online communities which have developed high levels of bonding social capital. This is an important implication for CSFF groups, particularly those who had only three months of funding prior to the first Covid-19 lockdown in March 2020. Where support, be it instrumental or emotional, is shared online, it offers an opportunity for group members to contribute to a collective intelligence which can be accessed asynchronously by others who may need to refer back to it at a later date (Chayko, 2008).

2.2.2.2.2. Bridging ties

De Krom (2017) describes bridging capital as a lever which may encourage actors to engage in further environmental action, but explains that to date it has received little attention. It involves more distant networks of interaction between individuals with a shared interest or goal, but with differing identities (Flanigan and Sutherland, 2016; Phillips, 2016). It is through these ties that we access wider information. This is becoming increasingly essential in an occupation such as farming as it is more multifunctional than ever (Flanigan and Sutherland, 2016; de Krom, 2017). Although the knowledge shared in dense networks is useful, there will be a point at which it becomes redundant. The weak ties present in bridging capital allow new knowledge and resources to be shared and help groups to prepare for innovation

(Portes, 1998; Ernstson et al., 2010; Rust, 2020). In the case of CSFF groups, this may include establishing relationships with representatives from environmental NGOs and local farm advisors and the group facilitator has a role to play in supporting the development of such relationships. These individuals may be invited to group events to discuss their expertise with group members and often deliver practical demonstrations too. The groups are also designed to bring together farmers and land managers, which implies that there will be differing identities between the group members themselves, thus increasing the likelihood of group members exchanging novel intellectual capital (Groth, 2015).

Bonding and bridging capital have been found to be in contention with one another (de Krom, 2017). The development of bridging capital may come at a detriment to bonding capital, as farmers turn away from their peers in favour of creating networks with other rural stakeholders (de Krom, 2017). Svendsen (2006) argues that bonding capital can be transformed into bridging capital which is beneficial to a whole society, where particularised trust present in bonding networks is developed into generalised trust across networks. This development does not have to be to the detriment of levels of social capital in a group; new relationships, born of pre-existing relationships within a group, should be allowed to flourish where these can improve cooperation (Flanigan and Sutherland, 2016). To capitalise on these new relationships, the way intellectual capital is communicated is important. Whilst loose ties offer access to more information, if those connected by such ties do not share a common language, or the knowledge being exchanged is not codified in a way with which they are familiar, its transfer may not be successful (Nahapiet and Ghoshal, 1998; Ingram, 2008). The impact of these facets, in the cognitive dimension of social capital, is explored in section 2.2.3.

2.2.2.2.3. Linking ties

Linking social capital connects people, who are often unlike one another, across power differentials, for example, farmers and government representatives (Grootaert et al., 2004; Mills et al., 2008; Phillips, 2016). Government structure plays a top-down role in facilitating social capital (Adler and Kwon, 2002). Hall (2008) explains that although the UK

government generally sees social capital as a public good, its value was largely ignored by policy-makers for decades. Its oversight in environmental policy may be a result of its association with less costly solutions to social problems, with fewer policy-makers giving attention to its application beyond this sphere (Portes, 1998). Maintaining linking ties is essential in ensuring farmers and land managers' buy-in for new AES (Baird et al., 2016). Traditionally, rural areas have been found to be lacking in this form of ties and thus do not have the same capacity for development as those communities with such ties (Hall, 2008). The extent to which evidence is effectively transferred and utilised along and through these ties is cause for concern (Raymond et al., 2016); however, it is vital such relationships are maintained during this time of change in agricultural support, as times of risk and uncertainty require trust in powerful actors (Rust et al., 2020).

As demonstrated in this review of bonding, bridging and linking capital, network configuration influences knowledge exchange and action. The homophilic nature of bonding social capital often means the information available to a group is less diverse than that which may be found in groups characterised by bridging ties (Nahapiet and Ghoshal, 1998; Prell et al., 2009; Baird et al., 2016). When networks are sparse, new information is often introduced through actors who share loose ties (Nahapiet and Ghoshal, 1998; Prell et al., 2009). Although levels of trust may be lower in bridging and linking ties, these relations often provide more efficient access to information as there are fewer redundant contacts (Nahapiet and Ghoshal, 1998; Prell et al., 2009). Nahapiet and Ghoshal (1998) assert that diversity is known to support significant progress in the creation of intellectual capital. Further research has demonstrated that diverse networks which involve all types of ties are useful in promoting changes in natural resource management (Prell et al., 2009; de Krom, 2017; Rust et al., 2020). Understanding the pathways through which farmers and land managers access new information is important in ensuring appropriate support mechanisms can be offered through new policy (Baird et al. 2016). Significantly, strong ties are important in the initial phases of group formation, while weaker ties become more important as the group develops,

as it is through these ties that members can access the information required to reach their long-term goals (Baird et al., 2016).

2.2.2.3. A note on power

Power relations are essential to consider in the context of the CSFF as they have been shown to influence knowledge formation and transformation (Rust et al., 2022). An understanding of the implications of unequal power relations is key to establishing ways in which associated issues can be overcome in groups.

The horizontal nature of bonding and bridging ties has often been considered to imply relationships between individuals of equal power and status (Hall, 2008). Coleman (1998) advanced the notion of linking social capital to capture unequal power relations characterised by vertical ties. Although traditionally explored within the context of linking ties, there is evidence to suggest that issues of unequal power may also be important in settings where bridging capital is developed. For example, Rust et al. (2022) state that, given the trusting relationship they develop with their clients, advisers maintain a position of power as they are able to control the information they share. Individuals may also display power through mobilising their connections characterised by bonding capital to influence group decision-making and membership for their advantage (Gelderblom, 2018).

2.2.2.4. Appropriable organisation

Nahapiet and Ghoshal (1998) propose that facets of social capital developed in one context may be transferable. In the context of this thesis, this may include ties, norms, and trust which have been developed through previous AES efforts in an area (Hodge and Reader, 2007), a farmer discussion group (Tsouvalis and Little, 2019), or through familial connections (Mills et al., 2011). The transfer of pre-existing social capital into CSFF groups is vital given the scheme’s short funding timelines, particularly if the aim is to develop a self-sustaining group of people who do not require a facilitator to support their interactions (Prager, 2022).

However, the transfer of social capital across organisations may not always present such an advantage. There may be cases where pre-existing social capital inhibits learning, as individuals do not want to provide access to the resources within their current network (Nahapiet and Ghoshal, 1998). In farming, a preference for independence, based on cultural norms relating to being a 'good farmer' (Burton, 2004; Emery and Franks, 2012), is considered a barrier to participation in schemes which require working with others (Emery and Franks, 2012; Franks et al., 2016).

2.2.3. The Cognitive Dimension

The cognitive dimension is based on the language and codes which a group share. It accounts for how information is effectively exchanged and is concerned with how shared understandings or meanings are developed. Nahapiet and Ghoshal (1998) consider intellectual capital to be a social artefact, created and sustained through social relations; for this artefact to be accessible, it must be shared in a language understood by all stakeholders.

2.2.3.1. Shared codes and language

Sharing a common language facilitates access to social relations and information (Nahapiet and Ghoshal, 1998). It is important to establish a shared technical language as where group members share a common language, the quality of information they share will be higher (Kosonen, 2008; Morrison-Smith and Ruiz, 2020). Several authors comment on the importance of advisors speaking the 'same language' as their clients (Ingram, 2008: 20; Thomas et al., 2020). It is important that CSFF facilitators are able to establish a common language within their groups, as where this is not the case, information cannot be exchanged as readily.

The terms we are familiar with influence how we perceive the world as they provide a frame of reference for our observations and interpretations of our environment (Nahapiet and Ghoshal, 1998). The language used in the farming sector is changing; conservation messaging which aims to persuade farmers to adopt more sustainable practices now focuses on the benefits adopting such practices can bring to the farm, not just the wider environmental

improvements (Ruxton et al., 2019). Through placing emphasis on the benefits to a farm's land and, as a result, its productivity, messaging is more likely to resonate with farmers (Dallimer et al., 2018; Ruxton et al., 2019). Although using appropriate messaging is an improvement, such messages may not reach all farmers, and, as recent research has shown, it is important to consider the ways in which we may reach those who are less willing to change (Ruxton et al., 2019; Tsouvalis and Little, 2019; Hurley et al., 2022).

Non-verbal language is as important in communication as the words we speak. In face-to-face situations, our body language conveys meaning and informs our decision to trust others (Flavian et al., 2019; Morrison-Smith and Ruiz, 2020). In virtual communications, these non-verbal languages cannot be shared as easily; this is particularly true when video communication is lacking, an issue common in rural areas thanks to poor internet connections (Cutress, 2020). The way in which we communicate not only has an influence on our ability to access and combine intellectual capital, but also on other facets of social capital, including developing trust and a shared group identity (Morrison-Smith and Ruiz, 2020).

2.2.3.2. Shared narratives

Narratives provide communities with a medium through which they can create shared meanings and give their lives context (Nahapiet and Ghoshal, 1998; de Jong, 2010). Through retelling these narratives, it is possible to strengthen group cohesion and create solidarity (Chayko, 2008). Narratives may contain information and details which are seemingly insignificant to those who are not familiar with a network's language and codes; however, to those within the networks these details can be sources of tacit experience through which they can improve their practices (Nahapiet and Ghoshal, 1998; Lejano et al., 2012).

The CSFF process will bring together individuals who have storied themselves into different narratives; their understanding of the environment will be defined by these narratives and may inspire their material practices on the land (Lejano et al., 2012; Groth, 2015). Group members will use their narratives to establish themselves in the group, shaping their identities and allowing them to establish their roles within the group. Lejano et al. (2012) suggest that shared narratives

may also motivate people to engage in learning processes and action towards a shared vision.

Maintaining a shared narrative when a group moves online can ensure geographically dispersed members feel united in their work (Chayko, 2008). The collective memories brought together within narratives can be drawn upon to begin spontaneous communications, which contribute to feelings of shared identity and a sense of belonging to a team, thus improving communications (Chayko, 2008; Morrison-Smith and Ruiz, 2020).

2.2.4. The Relational Dimension

The relational dimension focuses on the quality of relations within a social network and encompasses the most important facets of social capital including trust and shared norms; without relational capital it is difficult to form effective and stable relationships (Nahapiet and Ghoshal, 1998; Striukova and Rayna, 2008). Nahapiet and Ghoshal (1998) argue that it is the facets within this dimension which have most influence on the development and exchange of intellectual capital.

2.2.4.1. Trust and trustworthiness

Trust is an essential facet of social capital. It is widely acknowledged that where levels of trust are high, group members feel more comfortable interacting with one another and there is an increased chance of their cooperation and knowledge exchange (Nahapiet and Ghoshal, 1998; Levin and Cross, 2004; Riley et al., 2018; Flavian et al., 2019; Mills et al., 2021). Nahapiet and Ghoshal (1998) remark on the importance of open communication channels in the development of intellectual capital, suggesting that people are more inclined to experiment with new information if it is received from a trusted peer. Sligo and Massey (2007) argue that trust is linked to risk, and that it is through the process of developing interpersonal ties with which to shelter themselves from risk that individuals come to trust their peers. Trust is awarded when there is evidence that another party has benign intentions, as opposed to being out to profit at others' expense (Nahapiet and Ghoshal, 1998; Sligo and Massey, 2007). Our assessment of an individual's

competence also affects the extent to which we are willing to trust them with shared knowledge and work (Levin and Cross, 2004).

Maintaining peer-to-peer and facilitator-group member trust is particularly important given the current levels of uncertainty in English agricultural policy. Boisot (1995: 153, cited in Nahapiet and Ghoshal, 1998: 255) comments on levels of trust in contexts of uncertainty, highlighting its importance during times when individuals may be presented with knowledge which is uncodified. Here, it is the quality of the personal relationship that matters; people must know they can trust others' knowledge based on their shared values as opposed to the intrinsic plausibility of the information they provide. Sutherland et al. (2013) discuss the importance of trust in advisor-farmer relationships, highlighting its role in the ease with which AES measures are implemented on farm. Polman and Slangen (2008) comment on levels of trust between farmers and government; where these are high, AES uptake is enhanced. However, there are also trust issues between these two parties; Fabricus and Collins, 2007 found that high staff turnover in government departments causes issues and Raymond et al. (2016) argue that there is a lack of evidence of the value of farmer knowledge in government institutions.

It is pertinent to consider the impacts of a year in which face-to-face interaction has not been possible as it is through such personal encounters that we build trust in our relations (Sligo and Massey, 2007). A forced move to online communication due to the coronavirus lockdowns led to more superficial interactions lacking in body language. As explained in section 2.2.3.1, non-verbal communication plays a significant role in our decision to trust others; where it is not possible to see this, our decision to place trust in someone is delayed (Flavian et al*.,* 2019; Morrison-Smith and Ruiz, 2020). This is exacerbated by miscommunications and technological difficulties, such as poor connection or low technical skills.

Where group work is carried out online, trust must be established early on to ensure the group's effectiveness (Morrison-Smith and Ruiz, 2020). Morrison-Smith and Ruiz (2020) found that where teams are co-located, and thus have an opportunity to develop relationships in-person as opposed to exclusively

online, members are more likely to have the confidence to engage in online communication and thus demonstrate their commitment to others and to sustaining their performance. The literature relating to online trust in agriculture specifically is sparse; however, a recent survey of farmers and knowledge exchange practitioners found that 25% of farmers had an issue with trusting digital advice delivery (Kindred et al*.,* 2021). This number fell to 10% of stakeholders and knowledge exchange practitioners. Given how essential trust is in groups, this research will examine how pre-existing relationships influence levels of virtual trust and how the move to online communication had an impact on CSFF groups' ability to cooperate with one another in pursuit of combining and exchanging intellectual capital.

2.2.4.2. Norms

The norms we subscribe to depend on our social situation. For them to be effective, all members of a group must be aware of them (Flanigan and Sutherland, 2016). In groups, norms of cooperation may be established through trusting relationships and previous willingness to engage in cooperative actions. Where this is the case, individuals become more willing to engage in social relations (Nahapiet and Ghoshal, 1998). Nahapiet and Ghoshal (1998) argue that establishing a norm of cooperation is perhaps the most important action in pursuit of the combination and exchange of intellectual capital, as it encourages people to be open to engaging with exchanges which involve parties with whom they would otherwise have avoided. Reed et al. (2010) agree, stating that in some social contexts the established norms may constrain learning through interaction.

Farmers' decision-making is affected by cultural influences (Emery and Franks, 2012; Westerink et al*.,* 2021). This is particularly evident in the concept of the 'good farmer'; the cultural norms associated with this concept include: hard work, crop yields, the physical appearance of crops and livestock and tidy farms (Burton, 2004; Burton et al*.,* 2008; Westerink et al*.,* 2021). Farmers ascribe meaning to landscape features, and consider a 'good' landscape to be tidy (Franks, 2019; Westerink et al*.,* 2021). Well-kept landscape features hold significant value in 'good farmer' discourse and farmers may choose to

maintain these for their looks rather than their potential biodiversity value (Burton, 2004; Burton et al., 2008). Where these practices are woven into what it means to be a 'good' farmer in a specific locality, these interpretations are transferred through the community (Nahapiet and Ghoshal, 1998). It is essential that these cultural norms are recognised in AES, as the 'untidy' nature of certain biodiversity enhancing features can present a significant barrier to engagement (Burton et al., 2008; Westerink et al., 2021)

These long-held cultural norms are currently being recomposed. Changes in farming practice over the last two decades have seen a shift in cultural norms, reclassifying the actions considered 'good' in farming (Sutherland and Darnhofer, 2012; Tsouvalis and Little, 2019). Productivist norms were dominant for decades, (de Krom, 2017) leading Riley (2016) to describe AES as culturally unsustainable as they did not align with widely held normative behaviours. In 2009, Ahnstrom et al. found that the attitudes expressed in surveys regarding environmental management did not reflect a change in actions on the ground, thus overestimating sympathy towards nature conservation in the UK. This may be explained by norms influencing the type of landscape features farmers value; those which indicate high agricultural productivity were preferred over those associated with AES (de Krom, 2017).

Earlier work on farmer groups shows the benefits of providing a forum in which individuals can interact in changing normative behaviours (Emery and Franks, 2012; Tsouvalis and Little, 2019). In such spaces, it is possible for incremental changes to social norms to occur (de Krom, 2017). Westerink et al. (2021) found that agri-environmental collectives facilitated a change in views of the farmers they interviewed; their participants were more likely to appreciate the features associated with agri-environmental management on their farms and those of their peers, rather than consider them messy. For the sake of knowledge exchange, the processes which facilitate these changes should focus on encouraging cooperation over competition, an openness to criticisms, and a willingness to fail (Nahapiet and Ghoshal, 1998). Despite these incremental changes to farming norms, and increased interest in farmers working together, other decision-making drivers should not be overlooked.

Wynne-Jones (2017) argues that it is essential to account for farmers' ability to make an economic profit within a cooperative scheme, as it is a necessity in the early stages of social capital development.

In virtual settings, new norms must be negotiated to establish the frequency and type of communication. It is essential that this is facilitated, as differences in communication norms can be difficult to overcome when individuals are not known to one another. Without frequent, predictable interactions a group's coordination and willingness to cooperate with one another will be affected (Morrison-Smith and Ruiz, 2020).

2.2.4.3. Obligations and expectations

Nahapiet and Ghoshal follow Coleman (1990) in distinguishing obligations and expectations from generalised norms. It is useful to consider these facets of social capital through the norm of reciprocity to provide greater detail on how they influence our social behaviour. Gouldner (1960) argues that the norm of reciprocity serves as a 'starting mechanism' for social relations. This norm brings communities closer and motivates individuals to participate in the exchange of intellectual capital and collective action (Nahapiet and Ghoshal, 1998; Adler and Kwon, 2002). In engaging in these collective processes, actors develop an expectation that their contribution will be reciprocated in some form by those with whom they have interacted (Nahapiet and Ghoshal, 1998; Maiwald and Suerig, 2020).

Emery and Franks (2012) found that farmers considered ad-hoc reciprocity to be a longstanding tradition. This facet of social capital may, for example, become embedded through machinery sharing (Sutherland and Burton, 2011). Though modernisation means reciprocal relationships may be declining in the farming sector, particularly relating to practical tasks (Hall, 2008), there is evidence of reciprocity in farmer groups which extends beyond such tasks. For example, the CSFF has been shown to provide a space in which group members can discuss concerns beyond those associated with the environment, particularly those relating to social isolation and its impact on farmer health and wellbeing (Breyer et al*.*, 2020; Short et al*.*, forthcoming). Reciprocity becomes more robust in networks characterised by horizontal ties

(Ostrom and Ahn, 2001); however, the high-density of these ties does mean that where there is an incidence of non-reciprocity, there can be implications across the network for the farmers' reputation as they have demonstrated themselves untrustworthy (Sutherland and Burton, 2011; Rust et al., 2020).

2.2.4.4. Identity and belonging

Identity is not fixed; rather, it is constantly in a state of becoming, dominated by characteristics which are considered most appropriate for a given situation (van Dijk et al., 2015; Wynne-Jones, 2017). We are more likely to interact with others similar to ourselves, as we see our values and norms reflected back at us (Riley et al., 2018). Our relationships with those of a shared identity are built on high levels of trust and reciprocity (Riley et al., 2018). This contributes to an improvement in collective efficacy and in the likelihood collective action will occur; individuals will work for the common good as opposed to focusing on their personal interests (Nahapiet and Ghoshal, 1998; Riley et al. 2018; see also section 2.3). Identities within CSFF groups will require negotiation. Groth (2015) explains how rural landowners identify with multiple characteristics, and therefore, do not think they can be classified alongside others as one specific type of landholder. There are a growing number of landowners who purchase land for its amenity value, and have a different approach to its management than those who farm land; for example, non-farming landowners demonstrate higher levels of environmental concern, with production values being of least concern. This can complicate group development, as individuals may be unwilling to associate with those whom they consider to be of an undesirable identity and instead favour those they consider to share similar characteristics to themselves (Groth, 2015). Despite this, there is evidence that where farmers incorporate conservationist values into their sense of self, they are more likely to engage in AES (van Dijk et al., 2015).

Importantly, then, individuals can negotiate new aspects of their identity and come to accept newly composed norms and values. In the farming sector, AES implicitly offer those signing an agreement a new identity as they must align their work with new social norms; however, this is not a straightforward process as aspects of their current identity can pose a barrier to adoption

(Ahnstrom et al., 2009). It is important that this process of identity negotiation unfolds, as when new norms are accepted, there is an increased feeling of belonging and obligation as an individual's responsibility to their group increases (Nahapiet and Ghoshal, 1998; Polman and Slangen, 2008; Rust et al., 2020). In generating a collective identity, group members can support their peers in pursuit of mutual goals and derive a sense of esteem from the collective achievements of the group (Wynne-Jones, 2017).

Given the nature of the CSFF scheme, it is necessary to explore the identities of other individuals with whom CSFF group members may work during their funded period, including their facilitators, members of staff in conservation NGOs, and government officials. For example, farmers and land managers have demonstrated that they consider themselves to be different to 'people in offices' who are responsible for designing management prescriptions (Burgess et al., 2000). This has been shown to have an impact on their willingness to trust individuals in such a position, like government officials (Fabricus and Collins, 2007).

Developing a group identity is essential for ensuring effective communication (Ostrom, 1998). A shared sense of group identity is essential in ensuring miscommunications in-person, and particularly online, do not lead to conflict (Kosonen, 2008; Morrison-Smith and Ruiz, 2020). Sharing an identity increases the likelihood that individuals will be familiar with commonly used expressions and the values and behaviours of the group. As a result, they will be less likely to misunderstand one another online (Kosonen, 2008). Despite a lack of physical co-presence, groups can maintain a social presence through frequent interactions (Chayko, 2008; Morrison-Smith and Ruiz, 2020). Where groups create a sense of perceived proximity, group members are more likely to remain motivated and involved in decision-making processes (Morrison-Smith and Ruiz, 2020).

2.3. Intellectual capital

In Figure 1, Nahapiet and Ghoshal (1998) map how each of the concepts included in the three dimensions of social capital contribute to the creation and

exchange of intellectual capital. They adopt the term intellectual capital to complement the terms social and human capital and use it to refer to ‘the knowledge and knowing capability of a social collectivity’ (Nahapiet and Ghoshal, 1998: 245). It is through the interactions of each of the facets of social capital explored above that intellectual capital is developed, exchanged and mobilised. The exchange and combination of intellectual capital is a vital aim of the CSFF and thus, it is essential to understand how this occurs within groups and what can be done to facilitate this process. This section explores Nahpaiet and Ghoshal’s conceptualisation of intellectual capital in more detail and draws on the extensive body of literature on farmer learning to situate the concept of intellectual capital in the context of this thesis.

2.3.1. Types of knowledge

Intellectual capital is a valuable resource (Nahapiet and Ghoshal, 1998). Assessing how intellectual capital is combined is essential as we move towards sustainable agriculture; the topic’s significance is reflected in a body of literature which has been growing since the early 2000s (Thomas et al., 2020). Kosonen (2008) states that the structural and relational dimensions of social capital improve the quantity of knowledge sharing and the cognitive dimension improves its quality. Understanding how these dimensions of social capital are developed in farmer groups is essential to ensure the effective exchange and combination of intellectual capital. Hall (2008) acknowledges that in the transition to sustainable land management there is a need for investment in training which is engaging and respectful of local knowledges, whilst also providing a space to build trust between those involved in the learning process. This thesis’ second research question aims to explore if the CSFF group may be a suitable space in which this can happen.

Nahapiet and Ghoshal state that there are two types of knowledge which can be transferred through networks: “practical, experienced based knowledge and theoretical [knowledge]” (1998: 246). Another interpretation considers knowledge as action and knowledge as object. Polanyi (1967, cited in Nahapiet and Ghoshal, 1998: 246) stresses the importance of knowing, regarding the pursuit of knowledge as an active process which both shapes

and is shaped by our experiences. De Jong (2010: 7) states that in this perspective, knowledge becomes 'social, personal and context bound'. Both de Jong (2010) and Thomas et al. (2020) explain the importance of analysing the creation of knowledge in the context of the space in which it is created; our collaborations with specific elements of the world, and experiences within it, afford us specific, experiential knowledge related to the location in which it was experienced. Only then can we understand the 'social process of knowing' (de Jong, 2010: 7).

It is acknowledged that farmers rely on locally produced experiential knowledge to inform their practices (Skaalsveen et al*.,* 2020). Such knowledge is tacit and must be transferred through shared experiences interspersed with periods of reflection to allow participants to assimilate the skills they have learned (Gray, 2011; Urquhart et al*.,* 2019). For Polanyi (1967, cited in Nahapiet and Ghoshal, 1998: 246), experience itself is the key to knowledge; in the pursuit of knowledge, each of us exercises skills and partakes in specific experiences which are continually shaping what we know. On the other hand, training courses, such as those organised through the CSFF, present an opportunity for group members to exchange theoretical knowledge with their peers and experts on specific topics, in this case relating to CS priorities in their area. Here, knowledge is considered a formal object which can be used to further develop facts on a given topic to which group members can refer during the decision-making process.

Offering group members the opportunity to exchange both types of knowledge is essential as our individual attributes will affect how we learn and our capacity to do so (Urquhart et al*.,* 2019). The combination of knowledge can change group members' understanding of what is required of them in AES and the CSFF and allow them to develop collective solutions to issues present in their area.

2.3.2. Levels of analysis in knowledge and knowing

Learning is an inherently social process which can be enhanced or undermined through our everyday interactions (Nahapiet and Ghoshal, 1998; Sligo and Massey, 2007; de Jong, 2010; Reed et al., 2010; Mills et al., 2011).

The social network of which we are a part influences our capacity to learn, and through studying these networks, it is possible to understand how learning processes are situated within our interactions (de Jong, 2010; Urquhart et al*.,* 2019). From a structural perspective, a high density of strong ties is beneficial as it is in these types of relationship that actors are more likely to influence one another (Sligo and Massey, 2007; Prell et al*.,* 2009). Mutual learning is enhanced as individuals are able to communicate their knowledge and resources with their peers more effectively due to high levels of mutual understanding and trust; this association with their peers simultaneously contributes to improved levels of trust and reciprocity that will go on to shape their attitude towards the group (de Jong, 2010). However, we have long lived in a society which prioritises self-interest, thus making it more difficult to coordinate opportunities for learning and, subsequently, enhance social capital (Brown and Lauder, 2000; Sligo and Massey, 2007; Striukova and Rayna, 2008; Prell et al*.,* 2009; Rust et al*.,* 2020).

Where strong ties are built on benevolence-based trust, individuals who wish to learn more about a given subject are more likely to be open about their lack of knowledge. Levin and Cross (2004) state that this is as a result of greater emotional bonds between group members, which provide an improved sense of belonging. Such understanding may also relate to tacit knowledges which are gained experientially throughout farmers' working lives and provide evidence of a work ethic built upon the values associated with being a 'good farmer' (Burton, 2004; Prell et al*.,* 2009; Sutherland et al*.,* 2013; Skaalsveen et al*.,* 2020). Collective knowledge such as this often remains incommunicable and remains sustained through interaction (Nahapiet and Ghoshal, 1998). Striukova and Rayna (2008) suggest that issues around the transfer of tacit knowledges are intensified in virtual interactions, as it becomes more difficult to engage collectively in practical exercises through which these forms of knowledge are shared.

Nahapiet and Ghoshal (1998) recognise that their portrayal of the simple feedback loop from intellectual capital to social capital is weak, and suggest further research should be carried out to demonstrate this feedback process

in more detail. De Jong (2010) provides the following frame of reasoning to demonstrate how learning influences social capital development: learning is a social process, such processes are visible in networks, which are a facet of social capital. These processes also sustain specific social structures, which will affect the learning which takes place within a network in the future (de Jong, 2010). De Jong's (2010) frame of reasoning is employed in the analysis to answer research question two.

2.3.3. The combination and exchange of intellectual capital

Nahapiet and Ghoshal identify two ways in which knowledge is created: incrementally and radically (1998: 248). They suggest that there is a consensus in the literature that new forms of combination are common in both forms of creation; previously unconnected knowledges may be combined, or previously associated knowledges may be combined in novel ways. Different parties may then exchange intellectual capital either through the transfer of explicit, theoretical knowledge or tacitly, through social interaction. Such interaction is important in developing a collective knowledge which group members can access and mobilise to gain a competitive advantage. As explained in section 2.2.1, Nahapiet and Ghoshal (1998: 249-250) argue that each of the facets of social capital described in sections 2.2.2 to 2.2.4 contribute to creating the necessary conditions for the combination and exchange of intellectual capital.

First and foremost, individuals must have access to opportunities to combine and exchange their intellectual capital. The establishment of CSFF groups represents an intentional investment in providing opportunities for this to occur, as the facilitator is responsible for organising events at which group members can draw upon their peers' knowledge and that of individuals with an expertise in certain CS priorities (RPA, 2022). Improvements in technology have also aided the combination and exchange of knowledge between individuals who may not be co-located. Digital extension services are now more common in farming and several knowledge exchange platforms are in development (for example, FarmPEP, a collaborative venture led by ADAS (Kindred et al*.,* 2021)), which will allow farmers and land managers to access information

online. Further digital tools which have proved useful for advice and knowledge exchange include social media (Mills et al., 2019; Klerkx, 2021) and online games, or augmented reality (Mushtaq, et al., 2017; Klerkx, 2021). Importantly, however, this does not allow for the combination and exchange of tacit knowledge.

It is important group facilitators can demonstrate the competence of the experts they invite to speak at events; where people trust another's competence, they are more likely to absorb the information they receive, recognise its usefulness and take action (Levin and Cross, 2004). However, it is also important that the value of the knowledge generated in these networks is recognised in government organisations as this is essential in ensuring systems respond successfully to change. Often, this is not the case (Raymond et al., 2016); however, facilitators can encourage mutual learning across linking ties which is required to ensure group members continue to trust government actors (Juntti and Potter, 2002; Kowalski et al., 2015).

Actors must be motivated to take part in the combination and exchange of intellectual capital. Group norms play a significant role in creating an environment in which exchange readily takes place (Nahapiet and Ghoshal, 1998). Where a group establishes norms of cooperation, knowledge exchange is more likely to occur as people are more motivated to engage in the process (Nahapiet and Ghoshal, 1998). Over time, and particularly through learning processes, individuals' cognitive expectations change and they are more likely to be willing to explore alternative land management options and to engage in collective action (Narloch et al. 2012; Wynne-Jones, 2017).

Nahapiet and Ghoshal (1998) propose a final precondition for the combination and exchange of intellectual capital: a group's ability to recognise the value of new intellectual capital and determine whether they can make use of it. Ernstson et al. (2010) describe the role of facilitators in this process, detailing how they act as coordinators of knowledge exchange, directing individuals to knowledge which they have determined to be relevant to their group.

Although the conditions may be sufficient for the combination and exchange of intellectual capital, this does not guarantee behaviour change (Reed et al., 2010). The extent to which behaviour change occurs will depend on the continuing development of trust and respect between group members (Reed et al., 2010; Sutherland et al., 2013) and whether group norms encourage learning and collective action, rather than independence and self-reliance (Mills et al., 2011; Emery and Franks, 2012; Wynne-Jones, 2017). As Nahapiet and Ghoshal state, social and intellectual capital develop in 'mutually dependent and interactive ways' (1998: 260), and it is through a combination of both capitals that groups gain an advantage over others.

2.4. Collective action

Collective action is "action taken by a group (either directly or on its behalf through an organisation) in pursuit of members' perceived shared interests" (Scott and Marshall, 2009: 96-97). The reasons for this concept's inclusion in this thesis are twofold. First, it is widely acknowledged that natural resource management requires collective action (Ostrom, 1990; Pretty and Ward, 2001). Second, the CSFF scheme aims to promote collective action for the delivery of environmental benefits at the landscape scale.

There is an inherent collectivity to social capital and as discussed thus far, it is through the social relations we develop that we are able to act collectively (Coleman, 1988; Pretty and Ward, 2001; Woolcock, 2001; Ernstson et al., 2010; de Krom, 2017); however, this process does take time and is not guaranteed (Nahapiet and Ghoshal, 1998; Hall, 2008; Prager, 2022). There are several facets of social capital which facilitate collective action, particularly trust, norms of cooperation and reciprocity, and identification. In their work on social capital and collective action, Ostrom and Ahn (2001) argue that social capital's value lies in that it can bring diverse factors into the collective action framework. Social learning plays a key facilitatory role in collective action (Ostrom and Ahn, 2001; Adler and Kwon, 2002; Mills *et al,* 2011); in the process of exchanging and combining this capital, individuals' expectations can change. Mills et al. (2011) found that where individuals had an opportunity to learn more about their peers and develop trusting relationships, their

capacity for collective action was enhanced. Additionally, through social learning, group members may develop new capabilities which mean they are better placed to contribute to their group's collective goals (de Jong, 2010).

It is necessary to define what is meant by three key terms within the collective action literature: collaboration, cooperation and coordination. This is important in the context of this work as Franks (2019) argues that social capital development only occurs when people actively work together. Putnam (1995) suggests that its development also leads to further collective action. Collaboration requires actors to meet and work together, while maintaining regular communication and developing trusting personal relationships (Prager et al., 2012; McKenzie et al., 2013; Prager, 2015; Prager, 2022). Cooperation also requires actors to work together; however, the way they do so will be less direct and their work will often be coordinated by a third party, as opposed to self-directed (Prager, 2022). A coordinated approach sees actors working towards a shared objective, but doing so in isolation (Prager, 2015). Their applications may be overseen by an advisor to ensure their land management options align with area priorities; however, they will not be required to actively work together, which thus has implications for the development of social capital (Franks, 2019; Prager, 2022).

It is important to make this distinction as the CSFF manual states that funding is for groups to 'work together to improve… the environment' (RPA, 2022: 13). The wording that follows in the manual suggests that the scheme specifically involves all three types of 'working together': coordination, cooperation and collaboration (RPA, 2022). It states that facilitators should be 'aligning the management activities across different parts of the holding, to deliver at a landscape scale, rather than a single farm scale', or in other words, should coordinate the land management delivered by each individual holding so that it delivers for the CS priorities in the group's given area (RPA, 2022: 13). However, subsequent responsibilities suggest that the CSFF scheme recognizes the importance of having actors working together, rather than simply having their work overseen.

For example, facilitators are expected to ‘develop cooperation between the group members’; however, there is little guidance as to what this cooperation should look like (RPA, 2022: 14). Collaboration is mentioned seven times throughout the document, often in a similar context to cooperation. The manual suggests that ‘a facilitator is a person who helps and manages a group of people to work together in a more collaborative manner’. Prager (2022) suggests that genuine farmer-to-farmer collaboration requires actors to meet frequently and maintain a dialogue. Cooperation, meanwhile, ‘is a less involved, less direct way of working together’ which is often facilitated (Prager, 2022: 3).

The latter two terms cannot be conflated and it is important to identify which form of ‘working together’ is occurring as farmers and land managers will have different motivations to engage in either cooperation or collaboration (Emery and Franks, 2012; Prager, 2022). De Jong (2010) further divides forms of cooperation into four specific principles: working based on personal motives for a specific issue; working which involves all members of an organization actively participating to innovate processes; day-to-day experimentation to address practical issues; and, an organization whose structure encourages learning. Farmers and land managers may be more willing to engage in processes in which they can work based on their personal motives, than those which require day-to-day work with others.

This important distinction is not only recognized in the academic literature. Since 2020, Defra have been conducting ELMS Tests and Trials, some with the specific aim of ‘exploring the models and mechanisms for collaboration’ (Defra, 2020c). Current findings suggest the development of shared interests and objectives, ideally with the support of a facilitator, is crucial. Understanding the specific mechanisms which may be employed to create the conditions for collective action is essential, as no two groups of farmers and land managers will be the same and it is vital to offer options which will encourage people to engage (Defra 2020c; 2020d; 2021a and 2021b). This may help address issues around the sustainability of collaboration within AES, which Riley et al. (2018) demonstrate may arise if participants find their values and beliefs do

not align with what is expected of them in policy. Emery and Franks (2012) suggest that the alignment of group members' values and goals may present an additional barrier in collaborative AES. They suggest that this may be addressed through a collective action mechanism which works most appropriately for addressing stakeholder relationship issues, such as the presence of a facilitator to guide early discussions for a group.

As the rest of this section will demonstrate, there may be specific barriers that are preventing actors from cooperating, or the group may not have had enough time to reach a stage at which they trust their peers enough to collaborate, nor may they be able to align their actions without third-party support (Prager, 2022). This thesis will evaluate whether any form of collective action is occurring in the case study groups. It will use the groups' experiences to suggest how others may prepare to engage in collective action.

Understanding farmers' and land managers' motivations for engaging in collective action is an essential step in reaching the CSFF aims of landscape-scale activity. It is important to consider farmers' and land managers' reasons for choosing whether or not to engage in these sorts of practices. In their study of the potential for collaborative AES in England, Emery and Franks (2012) found that farmers involved with AES were not guaranteed to join collaborative schemes, based on values of independence and timeliness. Values notwithstanding, farming is a competitive business environment which does not lend itself to the development of trusting relationships (Wynne-Jones, 2017). This can have a significant impact on individuals' willingness to engage in exchange, as people are unlikely to share information which they believe give them a competitive edge (Nahapiet and Ghoshal, 1998). Whilst behaviours and norms play a significant role in an individual's decision-making process, each farmer will also appraise practices based on their risk, efficacy and their respective impact on the farm business. When encouraging sustainable practices, it should not be assumed that an individual does not want to change the way they work as a result of their values, but careful consideration should be given to all contextual factors (Mills et al., 2017).

Nahapiet and Ghoshal (1998) comment on the time it takes for social capital to develop, noting that this form of capital requires investment in stable relationships characterised by continuity in the social structure. As this chapter has demonstrated, this is an important consideration, as several facets of social capital which are essential to collective action take time to develop, particularly trust (Sutherland and Burton, 2011; Prager, 2022). Mills et al. (2011) suggest that groups require a minimum of ten years together to reach maturity, such that individual actors are in a position to change their land management practices and deliver environmental benefits. The CSFF represents an intentional effort to invest in the development of these facets, through providing groups of farmers and land managers with the time required to establish social relations. In addition, CSFF events often include a light meal (Breyer et al., 2020), thus creating 'place[s] devoted to conversations and sociability' which further encourage the development of social capital (Jönsson et al., 2021: 3).

However, there remains concern over the time for which group work for the benefit of the environment is funded. In a final evaluation of the CSFF's predecessor, the NIA scheme, White et al. (2015) determined that stakeholders considered three years of grant funding too short a timeframe to deliver sustainable change. This evidence supports Lawton et al.'s (2010) suggestion that such an initiative should be funded for at least five years; however, with the exception of the first round of CSFF funding, all groups were set to receive three years of funding (this did change following the pandemic, with some groups offered extensions to account for their underspend). Prager (2022) found that the three-to-five-year funding timeline did not allow groups sufficient time to develop trust, especially when the limited number of hours a facilitator can dedicate to their group is considered. She suggests that instead, the current CSFF funding timescale has allowed groups to complete the groundwork of building the social capital required for them to cooperate, but that they have not moved beyond this stage. Although the extent to which groups are prepared to collaborate may vary, encouraging the development of social capital so that a group is at a stage at which they will readily cooperate is positive at this time of policy change. This is particularly so as, historically,

the policy environment has hindered the potential for collaboration in England, with most AES options operating at the individual farm scale (Prager et al., 2012).

Working virtually can also have significant impacts on a group's effectiveness. Morrison-Smith and Ruiz (2020) identify several challenges which hinder groups working at a distance, as they lack the social facilitation to work towards their goals. These include a diminished awareness of their peers, a lack of motivational presence, changes in trust, different levels of technical competence and infrastructure, how the group is managed and their shared incentives and goals. Kosonen (2008) argues that where physical proximity is not possible, concrete actions are impossible to achieve as actors are unable to base their actions in the performance of another. Yang et al. (2022) found that remote working led information workers to become more siloed, limiting the amount of knowledge transferred through their networks. They expect this to have an impact on teams' productivity and innovation.

In their paper, Nahapiet and Ghoshal (1998) explain how the coevolution of social and intellectual capital contributes to the organisational advantage; however, they acknowledge that they have not considered the exploitation of these capitals. There is evidence from the above literature that supports the notion that the ability to engage in collective action, and thus take advantage of the schemes which require such an approach, is one such way in which farmers and land managers may exploit their improved stocks of social and intellectual capital. Subsequently, the process of working closely with peers may contribute to a continued improvement in stocks of social and intellectual capital. As described in research question 3, this thesis will explore the extent to which collective action to deliver landscape-scale environmental improvements is made possible through work with a CSFF group.

2.5. Conclusion

This literature review has introduced Nahapiet and Ghoshal's (1998: 250) thesis "that social capital facilitates the development of intellectual capital" and explored how this argument is reflected in the literature on farming and farmer

groups. It has drawn together examples of how each of the facets of social capital have previously been developed in farmer groups and farming communities. The ways in which knowledge is transferred between actors in these communities have also been explained, as have the conditions required for such exchange to occur. Finally, the review has demonstrated how the coevolution of both capitals may place groups in a position to undertake collective action, both for their benefit and for that of the environment. It has considered the different forms collective action may take, and the specific barriers and opportunities to working together in environmental land management contexts. Throughout the review, the ways in which virtual encounters differ to those in which people are co-present have also been examined, as understanding how such means of communication affect the development of capitals and the potential for collective action has been vital following the lockdowns imposed during the Covid-19 pandemic.

To reiterate, the aim of this project is to explore the social and environmental outcomes associated with landscape-scale working in CSFF groups. It will do so through examining how each of the facets within Nahapiet and Ghoshal's (1998) framework manifest in CSFF groups and the implications of these manifestations with regards to farmer learning and collective action. To do so, a qualitative methodological approach was adopted to ensure the complex details of each of the groups' social worlds could be captured. This approach, along with the considerations necessary to conduct research safely during the pandemic, and a reflection on my role as a researcher during this period are presented in Chapter Three.

CHAPTER 3 – METHODOLOGY

3.0. Introduction

Prior to explaining the methodological approach employed in this research, it is useful to reiterate the research aim and questions. This research aims to examine the contributions of social and intellectual capital to participants' willingness to engage in collective action and understand how the changes in communication necessary because of the Covid-19 lockdowns affected these processes. It explores the following questions:

1. How do each of Nahapiet and Ghoshal's dimensions of social capital manifest in CSFF groups?
2. How does social capital affect people's willingness to engage in the exchange and combination of intellectual capital in CSFF groups?
3. To what extent has social and intellectual capital development in CSFF groups facilitated collective action for the delivery of landscape-scale environmental outcomes?

The research aim, questions, and the theories chosen to make sense of these questions (which were explored in Chapter 2), have informed the methodological approach of this work. The research employs qualitative methods with four case study CSFF groups to examine their experiences. Qualitative methods were chosen given their prevalence in social capital research and for their ability to capture detailed information about participants' subjective experiences of the world. Given its complexity and subjectivity, social capital cannot be represented by a single figure, but must be examined through a range of indicators (Claridge, 2004). Quantitative methods have been used in government surveys to provide an insight into social capital trends; however, it is qualitative data which provides the detail required to understand how social capital influences people's relationships and experiences (Jacobs, 2020). De Jong (2010) suggests using a case study approach to collecting data on social capital and knowledge exchange processes in which multiple methods are employed to fully capture the dynamics of each case (in this research, each CSFF group is a case).

This chapter will explore the methodological approach and the process through which I arrived at this approach, including the changes made necessary to ensure data collection could proceed safely as Covid-19 restrictions eased. It will then provide detailed descriptions of the case study groups and provide a critical reflection of my positionality. The limitations of the study given the changing research environment brought about by the Covid-19 pandemic are also considered throughout.

3.1. The case study approach

This section outlines why the methodological approach was chosen, the case study groups involved in the research, and the research methods employed. It will provide details on the pragmatic approach taken to conducting case study research during a period when social distancing was a requirement, and the adaptations required to ensure data collection could continue.

The value of the case study approach is in its depth. Employing interviews and participant observation allows for rich observations on individual experiences to be gathered and ensures the data collected is valid (Hakim, 2000; de Jong, 2010). Simons (2009) states that a qualitative approach generates holistic, descriptive data on the particular phenomenon or unit in question. She adds that the case study approach captures the multiple perspectives and differing views of key actors and offers an opportunity to explore the processes and dynamics at play within actor networks. In addition, Stake (1998) concludes that a case study approach to research recognises that social phenomena and the nature of each groups' experiences are situational and context dependent. Given the nuances encountered in farming, an approach which was conscious of the individual contexts of participants, in addition to the wider socio-political climate, was vital. Using this approach presents an opportunity for reflexive and participatory work, in which participants' varied knowledge and understanding are recognised and the co-construction of joint understandings is allowed to shape the direction of the research (Simons, 2009; Yin, 2014).

There are several important issues to consider throughout each stage of case study research. The first, and one upon which I reflect further in section 3.5*,* is my positionality within the work and how my own subjectivity affected my

interpretations of the findings (Simons, 2009). To aid these reflections, it was necessary to establish the extent to which I would relate to those involved in the case studies, the research methods I would employ and the audiences for this study. As described further in section 3.2*,* I conducted semi-structured interviews with participants to capture details of their experiences and opinions on several aspects of the CSFF and observed events in their specific context to understand the experiences of each case study group and explore the network dynamics within the group in further detail.

Second, it is important to be specific about the timings of this research, the context within which it was undertaken and the partial nature of the research findings as a result. These issues are addressed throughout this thesis; the introduction and literature review provide details about both the time frame of this research, the current agricultural policy context and the specific questions asked, and the literature review covers the theoretical concepts used in the analysis of the data. These details are important, as they provide information on the conditions under which the findings of this thesis were constructed and allow the reader to ascribe significance to the findings based on their judgement (Simons, 2009). This research aims to provide a detailed understanding of the processes of social and intellectual capital development in the four case study groups within the changing context the groups faced during the research period. The detailed exploration of their experiences offers insight into the reasons actors behave in the way they do, and how these behaviours affected the development of capitals and subsequent engagement in collective action.

3.1.1. A pandemic pause

It is widely acknowledged that the research process may be subject to changes in course, developing to account for the practical and ethical dilemmas encountered throughout its duration (Harrowell et al*.,* 2017). Although I was prepared to adapt my research process according to issues which arose, I did not anticipate that I would be joining the entire academic community in adapting to the methodological implications posed by the Covid-19 pandemic in late March 2020. Researchers worldwide had to adapt their

methodologies and make use of virtual means of communication for extended periods, and this has had an impact on the ways in which data is collected. The introduction of strict lockdown measures in March 2020 required a methodological rethink; for the foreseeable future it was clear it would not be possible to conduct research in person. The changes required in research have been documented throughout the social sciences literature; researchers worldwide were forced to reflect on the obstacles the Covid-19 pandemic presented to their work and adapt their methodologies appropriately (Lobe et al., 2020; Rahman et al., 2021). Rahman et al. (2021) argue that although ad hoc, the process of adaptation provides valuable learning for research projects: resilience should be built into the process to ensure work can continue. Embedding flexibility into my research methods, particularly the mode of interviews, allowed me to continue developing my research throughout the pandemic and the final research design reflects the lessons I learned through an iterative approach to the design of my research over the course of two years (see section 3.1.2).

My initial plan to conduct several months of observations and interviews at group events from the summer of 2020, with a follow-up period of research in 2021 to assess any developments in the case study groups, was restricted by a limit on participant numbers at events. The UK Government's 'rule of six' was in place during this time and further, stringent restrictions followed in the winter of 2020-2021. With uncertainty around the length of time the restrictions and guidelines would be in place and what events would look like throughout this period, I decided to postpone observational data collection until the situation was clearer. Although this represented a pause on data collection for this thesis, it did not mean a pause in my learning and development, particularly regarding interviewing skills. During this time, I continued to develop my understanding of the CSFF and the best approaches to research during an unprecedented public health event. I undertook follow-up interviews with five facilitators from Breyer et al.'s (2020) CSFF Phase Three Review. These interviews, which took place over the telephone or virtually, allowed me to explore the key issues facing CSFF groups as they adapted to the first Covid-19 lockdown, and to understand the considerations I would need to

make when conducting my data collection. Further details on these interviews, and how they informed the final iteration of this case study research, are provided in section 3.1.3. In addition to these interviews, I undertook an internship at the Wales Centre for Public Policy from January to April 2021. This remote opportunity centred on a research project with a group of farmers in North Wales (see Morse, 2021). It had become clear that telephone interviews would be required to complete my data collection for this thesis and this opportunity allowed me to develop my telephone interviewing skills further.

The University of Gloucestershire's Research Ethics Committee confirmed that in-person fieldwork could resume on 11th May 2021 provided Covid-19 guidelines were followed and a risk assessment was completed. With this, and feedback from previous participants in mind about their group members' desire to meet in person again (see section 3.1.3), I made the decision to offer participants their choice of interview mode. This approach allowed me to mitigate some of the uncertainty and concern associated with the end of restrictions and, importantly, ensured participants were comfortable taking part in the research in a way that worked for them. I prepared for in-person, virtual and telephone interviews. The relative merits of these approaches are discussed further in section 3.2.2 and participants were also asked of their reasons for choosing the approach during their interviews. Given this change to the research methods, I felt it pertinent to reflect on the advantages and disadvantages of each method and consider how the quality and quantity of the data I collected through each approach differed (see section 3.5).

3.1.2. Following Yin's iterative approach to case study design

My approach to the case studies analysed in this thesis follows Yin's (2014) approach to case study design (Figure 2). This approach proved vital in adapting my research to reflect the changing research landscape under Covid-19 restrictions and ensured the research I conducted captured the prevailing issues faced by CSFF groups.

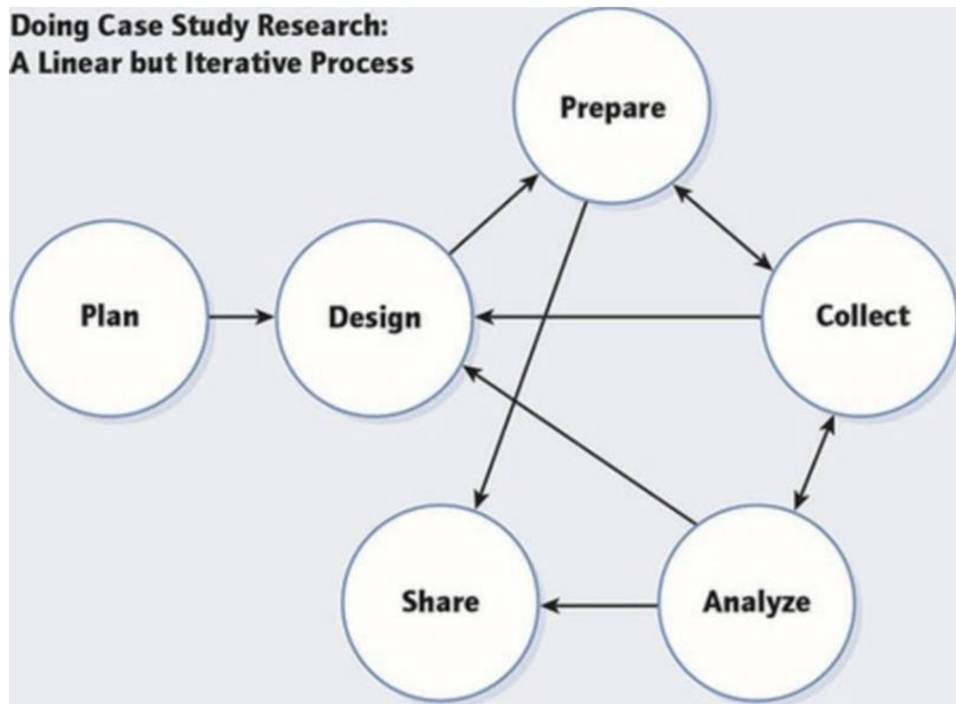

Figure 2: Robert Yin's approach to case study design (Yin, 2014: 1).

The four case study groups, and main research questions, were finalised after several iterations of the first five stages of the diagram (plan to analyse). The final design considers the methodological changes necessary to conduct research ethically and safely during this time. Despite moving through several iterations, my research questions remain broadly the same as those I devised whilst reading and learning more about the CSFF during the early months of my PhD. However, the pandemic changed personal communication in such a way that it became pertinent to explore the impacts of virtual communication on social capital and knowledge exchange in groups. The CSFF Phase Three Review (Breyer et al*.,* 2020), and subsequent facilitator interviews over the summer of 2020 allowed me to develop an understanding of the relevance of my initial questions, with comparative analysis of group members' engagement pre- and post-restrictions revealing the extent of the changes in CSFF groups from March to August 2020. This led me back to the design phase of the case study approach in the autumn of 2020 to ensure the interview schedules I prepared included questions relating to the impacts of the move to online working. After an internship with the Wales Centre for Public Policy from January to early April 2021, I came back to the design phase of my PhD case studies to finalise my approach, before preparing to collect

my data after the University informed staff and students that in-person research could resume in May 2021. The following section examines the facilitator interviews in more detail, as the findings supported the decisions which led to the final, executed design of this research.

3.1.3. Data influencing the final design

The final approach employed in this thesis required several iterations of the case study design process, as I navigated the changing pandemic restrictions and my emerging understanding of the preferences of CSFF group members and their facilitators as to how they would like to engage in my research.

Over the summer of 2020, I conducted interviews with facilitators I had interviewed in February and March 2020 as part of the Phase Three CSFF Review (Breyer et al., 2020). From these interviews it was clear that there had been significant disruption to CSFF groups' planned activities, with meetings taken online and many events cancelled. It is important to reflect here on the comments facilitators made during these interviews, as they played a significant role in determining my final methodological approach. Table 1 provides the pseudonymised details of the facilitators interviewed during this initial scoping phase:

Table 1: CSFF facilitators interviewed during the scoping phase.

Facilitator	Group	Members
Helen	Boscombe Valley	50+
Mark	Aldbrickham Farmers	30-49
Dave	Darrowby Hills	50+
Anne	Ravensbeck Farmers	Oct-29
Emma	Burnstow Downs	Oct-29

In their interviews, facilitators demonstrated that moving events online had been difficult for several reasons including people's willingness to use virtual technologies and issues with internet access. In Mark's case, a poor

connection hampered our interview, and we chose to proceed with our cameras turned off. Although this improved the situation somewhat, a lag remained on several occasions, which led to repetition throughout the interview. This showed first-hand why such a format was not always well-received by group members. Dave explained that activity in his group 'fell off the edge of a cliff' as his members were not interested in communicating via email or virtually. His comments on his group members' willingness to attend in-person events, as opposed to communicating 'electronically' made it clear that it was important to examine the effects of the pandemic restrictions on group development, particularly as communication is essential in nurturing the social relations in which social capital may be developed and through which intellectual capital is exchanged.

Despite the consensus that group members preferred in-person communication, all facilitators made it clear that their group members commonly 'picked up the phone' to discuss issues on their land, and that this had not changed since the onset of the pandemic. This familiarity with the telephone arose in subsequent interviews that I conducted with Welsh farmers in February 2021. They expressed that the telephone was a useful device which could be answered anytime, anywhere.

Additionally, the five facilitator interviews demonstrated that where it had been possible, some group members were using Zoom and other virtual platforms to meet with one another and continue learning. For example, Helen had a positive response from her group regarding a plant identification session on Zoom, which became an interactive session that 30 people attended. However, she again noted that this form of meeting did not allow for the 'extra social interaction' that she had seen at in-person events. Although I was aware it would not be possible for everyone to meet virtually (thanks to Mark's interview, and additional experiences external to my PhD research), nor would some people be willing to meet virtually, the knowledge that Zoom had been successfully employed by some facilitators, combined with what I had read about virtual interviews (see section 3.2.2.3), led to me including them as an

option for participants in my PhD research. Participants’ reflections on their choice of interview mode are examined in section 3.5.

3.1.4. The final approach

Although the facilitators I interviewed in summer 2020 were positive about restarting in-person events as we entered autumn 2020, there was another enforced pause on in-person interaction throughout the November 2020 lockdown and subsequently, the national lockdown which began in January 2021. These conversations and attendance at several webinars throughout these periods of lockdown highlighted the importance of maintaining a flexible, pragmatic approach to my methodology, to ensure the people I planned to work with would be able to participate in a method which suited them. My final approach to data collection was designed to consider the preferences of facilitators and their group members, whilst also maintaining flexibility should the research be required to adhere to further restrictions. Thus, I proceeded with offering participants their choice of interview mode and attending group events, all but one of which were held in-person. These pre-organised events complied with the Covid-19 guidelines in force at the time of research, and provided an opportunity not only for observation, but also to develop rapport with participants whom I would be interviewing over the telephone or virtually.

The final approach is designed to capture the social capital development, communication and knowledge exchange in the case study groups, and the impacts of the move to virtual communication in 2020 on these processes. The case study approach allows for a detailed analysis of how the groups developed and worked together to approach the virtual environment with which they were presented during the lockdowns and their subsequent move back into in-person meetings as restrictions eased. Finally, through a combination of digitally recorded interviews and observations, recorded by hand during and after events, I was able to examine the extent to which group members were prepared to engage with collective action to deliver landscape-scale environmental change. The following section explains the rationale for choosing these methods, and how they were used in this research.

3.2. The research methods

Qualitative methods are employed extensively in research on farmers' environmental attitudes, behaviours and social capital (for example, Mills et al., 2011; Emery and Franks, 2012; McCracken et al., 2015; Flanigan and Sutherland, 2016). Further, de Jong (2010) argues that employing qualitative methodologies is essential in studying the processes within the development of social capital, rather than simply capturing social capital as an output. It is for these reasons that semi-structured interviews and participant observation were chosen for this research.

3.2.1. Semi-structured interviews

Semi-structured interviews allow researchers to gain an understanding of participants' subjective world views and thus interpret the meanings and values they construct within their social environments (Carr and Worth, 2001). In this research, that is the experiences of group members, group partners and facilitators of group membership, including the development of social capital, knowledge exchange and preparation for collective action in the context of environmental management. A combination of closed questions, requiring a simple yes-no answer, and open questions, in which participants were able to discuss their experiences in more detail, were included in the interview schedules. By following an interview schedule, the interviewer ensures the interview content remains relevant to the topic being explored, while the open questions allow participants to explore issues pertinent to them in more detail (Dunn, 2016). Carr and Worth (2001) suggest that interviews are particularly advantageous in explorations of new research topics as they can provide comprehensive data through which it is possible to gain an in-depth understanding of the area. For a study conducted during a pandemic, this was important, as the interviews offered both myself and my participants the opportunity to make sense of the changes in our approach to interacting with others and sharing knowledge in the pandemic, and post-pandemic, world.

Group member interviews followed the schedule provided in Appendix A. This schedule was adapted accordingly for facilitator and group partner interviews. Its development was guided by Nahapiet and Ghoshal's (1998) framework and

the questions were adapted from three sources: Grootaert et al.'s (2004) World Bank Working Paper on Measuring Social Capital, Chiu et al.'s (2006) paper on understanding knowledge sharing in virtual communities and Mills et al.'s (2021) Social Capital Indicators. Additional questions were added to capture the impacts of distanced working during a pandemic on the development of each group and the intellectual capital they generated during this time.

Each question was designed to capture evidence of specific concepts related to social capital, intellectual capital, and people's willingness to engage with collective action; these concepts can be found in square brackets at the end of each question. In keeping with Simons' (2009) approach to addressing inequalities in the researcher/participant relationship, I ensured the interviews were as conversational as possible. The introductory questions were designed to be straightforward, allowing respondents to adjust to the interview format and find their voice (Carr and Worth, 2001; King et al., 2019). To ensure each interview continued in a conversational manner, I was prepared to respond to participants' questions with my own experiences and discuss my personal identity, as I was asking the same of them. This also helped address issues of hierarchy within the interview process (Simons, 2009), an issue on which I reflect further in section 3.5. There were interviews in which this was more common, particularly in those conducted with group members.

As discussed above, I took the decision to offer my participants their choice of interview mode, thus, it was important to examine the literature to gain an understanding of good practice in each of the modes, and the key issues I should not overlook in my preparations. The following section provides an overview of this literature and describes my previous experience of using each mode of interview.

3.2.2. Examining the modes of interview

There is an assumption that qualitative data is best collected through face-to-face means (Ward et al., 2015). However, King et al. (2019) state that data collection methods have been changing as access to telephone and virtual technologies have improved, with online interviewing described as a 'burgeoning method in its own right' and telephone interviews no longer

considered an 'inferior option'. The following section does not aim to position one form of interview mode ahead of others, but rather demonstrates the practical and affective differences which should be considered when using each form.

3.2.2.1. Face-to-face interviews

Face-to-face interviews have long been considered the 'gold standard' in qualitative research (Oltmann, 2016). Thomas et al. (2019) suggest that in farming research, conducting interviews in place provides an opportunity to examine the intimate connections between farmers and land managers and their land. Interviews that take place on-farm offer insights into places which are continually being (re)produced by human action, and how people interpret these places (Thomas et al., 2019). For farmers and land managers, conducting an emplaced interview provides them with an opportunity to visually demonstrate their land management, and the benefits or issues associated with given practices and local environmental conditions (Mills, 2012; Riley et al., 2018). In addition, it is possible for researcher and participant to respond to one another's non-verbal cues. For example, if a participant is aware that the researcher does not follow their response thanks to a confused facial expression, they may offer to explain in more depth without prompting from the researcher (Stephens, 2007).

Such interviews are not without practical issues, especially those conducted on-farm. Visiting a working farm often means travelling to remote locations and navigating health and safety issues, such as heavy machinery and livestock (Chiswell and Wheeler, 2016). In addition, farmers are very often busy, making it more difficult for them to commit to a given day and time for an in-person interview. Personal experience from previous research projects I have conducted, both as a student and as a Research Assistant, suggests that if an interview is organised for what is forecast to be a rainy day, and then the sun is shining, farm tasks often take precedence, meaning it becomes necessary to rearrange. This has cost and time implications for the research project, which may be mitigated by agreeing to a remote interview, which can be more easily rearranged, in advance (see sections 3.2.2.2 and 3.2.2.3).

My research training thus far has comprised two projects which have required the design and implementation of in-person interviews with farmers and land managers. I have had specific experience conducting walking interviews with farmers and land managers in north Wales to ascertain the social factors contributing to family farm survival in the region, and further experience of in-person interviews with CSFF group members for Breyer et al.'s (2020) phase 3 review of the CSFF for NE. These projects have provided me with several opportunities to develop my in-person interviewing skills; however, I did note that a pause on in-person interactions during the pandemic led to an initial anxiety over a return to the field, as my first field note captured:

> *Feeling apprehensive, first time in the field in months. Recalling previous fieldwork to calm nerves. An easy journey and a warm welcome by Emily helped, and I was soon chatting with the two group members who would be leading the event - from field notes, 7th July 2021. [WF, event]*

This was swiftly overcome, thanks to the welcoming nature of my participants; however, the experience demonstrated the importance of developing rapport in putting both my participants, and myself, at ease:

> *Felt better on the drive home. It was nice to be back at an in-person event and see everyone engaging. I'm looking forward to learning more about the group through interviews and at events now - from field notes, 7th July 2021. [WF, event]*

The opportunity to get to know participants at an event, and thus overcome any in-person anxieties, allowed me to focus on interview practicalities in the time immediately prior to conducting the interview such as finding the participants' farms. Most significantly, the rapport I developed during these events was important in the following two modes of interview that this chapter now addresses: telephone and virtual interviews.

3.2.2.2. Telephone interviews

The number of participants (six) opting for a telephone interview reflects what has been a growing trend in academia thanks to the increasing prevalence of

telephones. Telephone interviews have become increasingly common in a range of academic disciplines to collect both quantitative, and increasingly, qualitative data (Glogowska et al., 2010; Ward et al., 2015). By 1987, 90% of Western households owned a telephone and telephone usage was becoming increasingly acceptable (Carr and Worth, 2001). Earlier concerns, expressed in the 1970s and 1980s, over a lack of telephone ownership and participant familiarity and ease with using a telephone are today far less of an issue. Advancing technologies have changed our interpersonal communications and now 81% of UK households have a landline service (Ofcom, 2019: 2) and 82% of adults in the UK own a smartphone (Ofcom, 2020a: 6). As I was quickly learning, many people had no problem with 'picking up the phone', and thus, concerns around a failure to obtain complete interviews were minimal.

Carr and Worth (2001) conclude that the telephone interview is a legitimate data collection method which produced data of comparable quality to that which is produced during a face-to-face interview. Wilson and Edwards (2003) draw similar conclusions, stating that the advantages outweigh the disadvantages, particularly when concerns over data quality are addressed. King et al. (2019) conclude that the growing literature on telephone interviews since 2010 suggests that the telephone is no longer seen as simply a 'pragmatic second choice', nor as the inferior choice; rather, they give participants who may not otherwise be able to get involved in the research an opportunity to impart focused information on the interview topic. Conducting an interview over the telephone offered convenience for both myself and participants; some participants referred to this specifically in their interview. The interviews offer participants flexibility, which is particularly important in farming as farmers may have to deal with unexpected issues throughout their days, or their work may take longer than expected and they may be unable to make the agreed interview time.

Although there is ample evidence that telephone interviews produce comparable results to face-to-face interviewing (Oltmann, 2016), it is important to be aware of the potential shortcomings of telephone interviews, and to attempt to overcome these where possible. During a telephone interview there

is a lack of visual information which can be used to aid interpretation. Holt (2010) does not consider this to be a significant issue, arguing that instead, a lack of non-verbal cues makes full articulation necessary, thus generating a richer text that cannot be as easily misinterpreted. In the same vein, Carr and Worth (2001) suggest that telephone interviews have been found to elicit shorter responses to open-ended questions. Although previous studies suggested this would be the case, particularly as the telephone is considered a 'business-like' form of communication, it was not an issue in this research. For example, an interview with a participant that others had warned would be 'business-like' on the phone lasted for an above average time (68-minutes), without repetition or interruption.

It has been argued that it is harder to establish rapport in telephone interviews, as there are a lack of visual cues and a loss of natural conversation (such as small talk) (Trier-Bieniek, 2012); however, Ward et al. (2015) argue that the telephone creates a more conversational environment in which participants feel more at ease. This is further improved when participants receive prior communication. Given Ward et al. (2015) suggest that participants are likely to be more confident on the phone and offer rich insights into the topic in question after being sent participant information sheets and having an opportunity to ask questions, I ensured all participants who opted for a telephone interview received the required information and that they had time to ask questions regarding the research over email.

From February 2020 to April 2021, I had experience on four projects which required me to carry out telephone interviews. One of these was the CSFF Phase 3 Review (Breyer et al., 2020), in which I was employed by the Countryside and Community Research Institute (CCRI) to carry out both in-person and telephone interviews with CSFF group facilitators. In addition, I conducted telephone interviews on two further CCRI-led projects which aimed to examine the efficacy of specific AES options. An internship at the Wales Centre for Public Policy, in which I carried out eight telephone interviews with members and partners of a Sustainable Management Scheme funded project, offered further experience in conducting semi-structured interviews relating to

collective approaches to land management over the phone. Following feedback from my supervisors and those who participated in the final project, I felt confident in conducting the telephone interviews required for this thesis.

3.2.2.3. Virtual interviews

Virtual interviews were conducted over Zoom, Microsoft Teams or Skype, depending on each of the nine participants' preferences. Interviews held over these platforms have more in common with face-to-face interviews as it is possible to see others' body language. This form of interviewing was becoming increasingly popular pre-pandemic, particularly with the introduction of new platforms such as Zoom (Archibald et al., 2019); however, the pandemic restrictions saw video-conferencing become a norm. Lobe et al. (2020) suggest that, given the requirement to take interactions online, those with access to the internet have likely improved their digital competencies as a result of the pandemic restrictions. The increasing prevalence of online communication means that, for some, the use of video-conferencing software is akin to picking up the telephone. In addition, virtual and telephone interviews share many of the same advantages such as convenience, cost- and timesaving. The facilitator interviews I conducted in the summer of 2020 suggested that some CSFF group members preferred speaking via a virtual platform, thus, I decided to include the virtual interview as an option.

Accessing a virtual interview required a stable Internet connection and sufficient knowledge of the proposed platform. Broadband access remains an issue in rural areas. The case study groups are all situated within 'largely rural' or 'mainly rural' areas. This means that some 0.8% to 1.2% of premises do not have access to a 'decent' (download speed of 10Mbit/s) fixed broadband service, which can present difficulties in using videoconferencing software and thus exclude the virtual interview as an option for some individuals who were interested in taking part in the research (Defra, 2021c). King et al. (2019) caution that, given the questionable reliability of broadband, interviewers should be prepared for virtual interviews to become telephone interviews at short notice; my earlier interview with Mark allowed me to prepare for such circumstances. Fortunately, there was only one other occasion (with a group

member) for which this switch was necessary early in the call. In all cases, participants were sufficiently familiar with their chosen platform that there were no issues with signing into the call, nor did anyone have difficulty with their video or microphone capabilities.

My day-to-day work required the use of Teams and Zoom, so I was familiar with the processes required to use this software. Conducting virtual interviews with the facilitators in summer 2020 provided specific experience relating to interviewing participants online. I am grateful to these participants for their feedback regarding the interview experience, as it allowed me to ensure I was prepared to carry out virtual interviews for the main data collection period of this research. This chapter now turns to the other method used in this research: participant observation.

3.2.3. Participant observation

This method allows researchers to explore the explicit and tacit experiences of their research population through taking part in activities and explicitly recording information relating to the general behaviour of participants and the social interactions they observe (DeWalt and DeWalt, 2011). It is important to recognise that the knowledge produced through participant observation is situated and subjective, to ensure a critical analysis of the data, and to communicate the specific nature of the findings (Jorgensen, 1989).

This methodology was limited to the East, West and Northern Farmers groups. The Midlands Farmers had no further events planned at the time of research, as they had reached the end of their funded term and their facilitator was in the process of writing an application for the next round of funding. In lieu of attending events with the Midlands Farmer group, I had two further conversations with their facilitator to discuss their events and group members' opinions on pursuing further CSFF funding.

At each of the six events I attended with the other three case study groups, I joined in conversations on the chosen topic and discussed group development with participants in the time following formal presentations. I made handwritten notes of my observations and conversations in a field notebook immediately

prior to, during and immediately after each event. Observations from the events were compared with the descriptions of relationships and event activities provided by participants in their interviews. My observations were not constrained by any particular design, but focused on documenting group members' actions and behaviours at group events. Observing group members at these events allowed me to assess whether the relationships participants described in their interviews were also evident in their interactions at group events (Simons, 2009; de Jong, 2010). These observations also offer insight into the norms and rules present in the group. It was possible to develop a comprehensive account of the group's interactions with one another and interpret the ways in which knowledge was shared, both explicitly and implicitly (Simons, 2009; DeWalt and DeWalt, 2011). As with interviews, it was important to remain open to everything which occurred during the events, rather than simply recording actions which confirmed my expectations from theory or from conversations I had had with facilitators whilst recruiting their group members. Interviews provided an opportunity to discuss my observations with participants and confirm their meaning if I felt them to be relevant to the line of questioning.

As discussed in section 3.2.1, in attending these events, I was able to establish relationships with potential research participants. The events offered a space in which I could explain my work in more detail and answer any questions group members may have had regarding the work. Despite taking place over just a short period of time, the events were a chance for my participants and I to build trust with one another, which ultimately aided our rapport when we met again for their interview.

3.2.4. Ethics and health and safety

Ethics were an important consideration in my research design. My ethical approval process included all elements which may be considered a traditional requirement for approval, and additional considerations around the ethics of research during Covid-19.

Written consent was obtained from all interview participants once they had had time to read the research information document and ask any questions. Where

the interviews were held online or over the phone, participants would email any questions before sending their completed consent forms over. Participants were offered anonymity and ascribed a pseudonym upon agreeing to take part. Verbal consent for participant observation was sought at group events. This approach was chosen so as not to disrupt the planned activity at group events, as facilitators had noted that the paperwork they were required to fill out for CSFF reporting affected the dynamics of the event. Consent was obtained from all attendees following a brief presentation in which I explained my research and the nature of the notes I would be taking, and participants had the opportunity to ask any questions regarding the process. Ethical approval for my project with the case study groups was gained from the University of Gloucestershire in June 2021 after the School of Natural and Social Sciences ethics committee reviewed my interview schedules, consent forms, participant information sheets and health and safety review.

Health and safety reviews have always been conducted for projects I have assisted with during my time at the CCRI; however, meeting in person now carried the extra considerations of ensuring my participants and I could observe Covid-19 safety guidelines. In line with university guidance, my supervisors and I completed a risk assessment prior to my planned fieldwork start date which encompassed additional risks relating to Covid-19. In addition to the typical risks associated with farm visits, my preparation for in-person interviews and events included taking a Lateral Flow Test prior to my departure, wearing a mask in indoor locations and, where possible and agreed to by the participants, conducting interviews outside.

3.3. The case study groups

The facilitators of the 136 CSFF groups known to have been funded at the time of this research were sent a participation request via a contact in NE. Four facilitators responded to this initial call. Of these, research progressed with two groups (the East and West Farmer groups, see sections 3.3.2 and 3.3.3 respectively). One facilitator did not respond to subsequent emails requesting a meeting. The other facilitator shared details of my research with their group, but there was no interest from group members. This issue is explored further

in section 3.6. In lieu of working with her group, she suggested I attend an event with another neighbouring group and arranged with their facilitator for me to speak with them regarding my research during the event. This event led to the Northern Farmers (see section 3.3.1) taking part in the research. The Midlands Farmer group (see section 3.3.4) were the final group to be recruited. I had intended to interview a group from each round of the funding; however, prior to recruiting the Midlands Farmer group, I had recruited a 2016-funded and two 2020-funded groups. To understand how the length of time a group had been active for may have affected members' willingness to work together, it was important to recruit a final group who had received funding in one of the earlier rounds of the CSFF. To do so, I gathered publicly available contact details of CSFF groups in the English Midlands who had received funding in 2015 and 2016. I sent emails to their facilitators, which resulted in two expressions of interest. Again, one facilitator did not respond to my reply requesting an initial meeting, but the other agreed to arrange a call. Thus, this research proceeded with four CSFF groups: one first funded in 2015, one in 2016, and two in 2020.

In a call with each of the facilitators who responded, I explained my research and requirements and asked if they were able to send a request for participation to their members. This request included my contact details and group members were asked to contact me should they be interested in taking part in an interview. I enquired with facilitators whether it would be possible to attend events with their groups to introduce myself and my research to their members and to take notes on the interactions I observed. I made arrangements to do so when they confirmed the details. This was not possible with the Midlands Farmers, as their funding had come to an end; instead, I had two further conversations with their facilitator to understand more about the events the group had held and the group members' willingness to continue working together based on their final meeting. We remained in regular email contact during the time I was collecting data with her group.

Following an initial conversation with each of the facilitators and attendance at an event, a further 21 group members were identified for interviews. Working

alongside partners is a key element of the CSFF and so four members of staff working with group partner organisations were offered an interview to ascertain their views on this approach to collaborative working. What follows is a description of each of the groups, including the facilitators, group members and partners who participated in this research. All group and participant names are pseudonyms. The individuals' pseudonyms were selected from a list of popular names and were chosen to reflect the personal attributes of each interviewee. Each participant is also attributed a personal identifier, to indicate their role and group affiliation; these are given following a description of each participant in sections 3.3.1 to 3.3.4 and are provided in Appendix B for reference.

Farmers and land managers often attributed themselves an identity, for example, 'farmer', 'smallholder' or 'hobby farmer'. In the following descriptions, I have used the terminology which they employed in their interview; the issues relating to their self-identification are explored further in the empirical chapters. In two groups, new facilitators started during the time I was conducting my research and sharing my findings with participants. I have noted the details of the new facilitators under 'facilitator at time of writing' and the facilitators I interviewed under 'facilitator at time of interview'. Although I did not formally interview the two new facilitators, I have maintained contact with them to ensure participants receive the updates I provided on my research findings.

3.3.1. Northern Farmers

The Northern Farmers sits within an upland landscape that is part of a designated Area of Outstanding Natural Beauty (AONB). The group of 19 members is facilitated by an AONB member of staff, who worked with a conservation-NGO employee to set the group up. Sheep and cattle farming remain the predominant activity, though there is evidence of long-standing diversification on several farms. Several significant rivers drain from the area, and thus improving water quality and managing water flows are priorities, as are the restoration and enhancement of priority habitats, including blanket bog, heath and upland hay meadows. The facilitator expressed concern that she has had to make significant changes to her original project plan due to Covid.

She plans to address the group's core themes during what remains of their funded period, but through a different approach to that which she had originally suggested in the application.

Of the six group members interviewed, three considered themselves to be farmers, two 'hobby' farmers and one was a local land agent. These self-identifications are a reflection of the changing farming landscape, with the number of active farmers falling and few new entrants taking up tenancies. This is also reflected in event attendance, where smallholders and farmers close to retirement were most likely to attend. Individual participant details for this group are as follows:

Current facilitator

Maria is employed by the local AONB partnership. She has worked with several farmers in the Northern Farmers group before, on other AONB managed projects. [NF-F]

Group members

Arthur owns 60ha of pasture and moorland, and rents a further 60ha, some of which is his neighbour, Rosie's, land. He runs sheep and his family run several other agricultural businesses from the farm. [NF-M1]

Until recently, Fred owned 325ha in the same valley as Arthur and Rosie, but he and his wife have now moved onto a smallholding close to a nearby town. They still rent 65ha to run a flock of 200 ewes and graze 12 cattle. [NF-M2]

Oliver farms 200ha of pasture and rough grazing on which he raises beef cattle and sheep. [NF-M3]

George owns a 12ha smallholding and manages a further 12ha on behalf of his neighbours. [NF-M4]

Thomas owns a 15ha smallholding, which is predominantly pasture and meadows. A wildflower meadow is under an HLS agreement. [NF-M5]

Rosie owns 45.5ha of pasture and moorland. It is grazed by her neighbour, Arthur and his son. [NF-M6]

Owen is a local land agent who is employed by the local commoners to administer their higher-level stewardship (HLS) agreement. Some of these commoners are also his private clients. [NF-M7]

Representative from group partner organisation

Freya is employed by the local branch of a national conservation NGO. Like Maria, she has worked with several farmers in the area before on various projects. [NF-P]

3.3.2. East Farmers

The East Farmers group brings together 39 farmers and landowners in an area described by Swanwick et al. (2007) as western dairy and mixed agriculture. This typology is reflected in participants' previous farming activities; however, the majority now no longer farm, or they have sold their dairy herds and exclusively rear beef cattle. In this group all participants referred to a clear distinction between the types of landowners. The group's facilitator at the time of interview explained how this was both a sticking point, in that it presented a challenge regarding diversity of opinions, and a good thing for the group, as it allows members to draw on the variety of opinions and gain insight from others' diverse land management experiences. The group is facilitated by a charity, and has a steering group of four members, some of whom also sit on the boards of local conservation organisations. Individual participant details for this group are as follows:

Facilitator at time of writing

Ivy is employed by a local conservation NGO. She took over from Debbie in November 2021.

Facilitator at time of interview

Debbie remains employed by the local conservation NGO, but has moved into a different role in the organisation. [EF-F]

Group members

John owns 16ha, which comprises pasture and some woodland. The pasture is grazed on rotation by his neighbour's 480 dairy cows. [EF-M1]

Stephen grazes goats on 16ha of his land. Prior to 2021, he had run beef cattle on this land, and before that, he was in dairy. He lets the rest of his land to two neighbours, one of whom is in dairy, the other in beef. [EF-M2]

Lewis owns 283ha. Until 2004, the family milked, but following a drop in milk prices they turned to beef cattle, running 1300 until spring 2021, when they sold all their livestock to focus on conservation and commercial ventures. [EF-M3]

James owns 47ha. He farms in partnership with his mother and his son, who also rents 47ha. Like Lewis, they milked until it was no longer financially viable, and they now run 80 beef cattle. [EF-M4]

Ava owns 16ha of species-rich grassland. In the first ten years of ownership, this was grazed intensively by sheep, but now it is not grazed at all. [EF-M5]

Representative from group partner organisation

Sophie is an independent ecologist, who works with this group and several others in the area, providing advice for their projects. [EF-P]

3.3.3. West Farmers

The West Farmers group brings together 19 farmers and land managers who are based in an AONB. Grass-based beef and sheep enterprises make up the predominant farm type in the area, although some farmers and land managers also grow crops for animal feed. The development of the group was driven largely by a local conservation NGO. The area has a mix of designated protected sites and areas of quarrying. The local quarry companies are members of the group, and one representative was a participant in this work. Other participants included a conservationist and two small-scale farmers. Individual participant details for this group are as follows:

Facilitator at time of writing

Matilda was employed by the local conservation NGO in January 2022 to take on Emily's role.

Facilitator at time of interview

Emily was the group's second facilitator, though she had worked with some group members before in a different role in the local conservation NGO. She handed over the role to Matilda in January 2022, to take on another role in the organisation. [WF-F]

Group members

Olivia is employed by a national quarry business. She is responsible for a site which lies within the group's boundary. [WF-M1]

Henry and Eliza own 75ha and rent a further 10ha from the National Trust. When they moved onto the property, 44ha were in permanent pasture and 31ha in arable. They are now letting it revert back to pasture and wildflower meadows, running 35 Ruby Red Devons for beef and milking several Jersey cows. [WF-M2]

William is a warden for another local conservation NGO. He also owns five fields and part of a local woodland through a conservation collective. [WF-M3]

Jack owns 20ha, rents 40ha and grazes a further 60ha in agreement with several local conservation organisations. He runs beef cattle and sheep and sells his products locally. [WF-M4]

Representative from group partner organisation

Ross is employed by a conservation NGO. His 'patch' covers a large area of the southwest of England, where he works with several CSFF groups, including the West Farmers. [WF-P]

3.3.4. Midlands Farmers

The Midlands Farmers group sits within an area of predominantly livestock grazing and cereal farms, though horticulture is also prominent. The group was established in 2015 by a local conservation NGO and currently has 40 members, of which the facilitator explained around 15 are regular attendees at events. They have held over 60 events which have focused on soil health, integrated-pest management, crop rotations, bokashi and, more recently, discussions on the future of land management under ELMS. 19 members of the group were part of a successful application for funding from an arms-length government body to address water quality and riparian habitat connectivity in the group's area. Recently, several members of the group, recruited by the facilitator's organisation, took part in a Defra Test and Trial on land management plans. Outside of formal events and projects, group members collaborate informally in a hay exchange and lending machinery when required.

The group's funding came to an end in September 2021 and at the time of interviewing the facilitator was consulting with their members and her organisation as to whether they would like to continue as a CSFF group. The group submitted an application for the 2022 round of CSFF funding in February 2022. Individual participant details for this group are as follows:

Current facilitator

Barbara is an agronomist who has been employed by the local conservation NGO for 17 years. During this time, she has developed relationships with landowners across the region, working closely with several for over a decade. [MF-F]

Group members

Ben runs a 267ha mixed farm with his brother. They graze sheep on permanent pasture, cut hay and oversee a mix of grade 3 and 4 arable land. They have a HLS agreement. [MF-M1]

Darren owns 150ha of mainly arable land. He has a tenant who runs sheep in some fields. The land was first entered into a CS agreement in 2000, and was subsequently put into an HLS agreement, which is currently in a one-year rollover scenario. Darren has experience as a committee member of a local conservation organisation. [MF-M2]

Michael and Esme manage 31ha of rented land. They stopped milking in 2006, in favour of pursuing regenerative grazing, and now have a herd of 30 Aberdeen Angus x Friesian cows. [MF-M3]

Daniel owns 49ha. 39ha is permanent pasture, on which he runs 70 sheep, 15 suckler cows and their offspring, and a bull. This land recently came out of a CS mid-tier agreement. The remaining 10ha is woodland which has never been under an agreement. [MF-M4]

Grace bought 75ha in 2017. The farm used to be mixed arable, but under the current CS agreement it is all down to pasture. She lives out of the region, so the land is managed by her tenant, who grazes cattle. [MF-M5]

Representative from group partner organisation

Chloe is employed as a catchment coordinator by an arms-length government body. Prior to this, she had worked for Barbara's organisation and, therefore, knew Barbara and some of the farmers with whom she now works. [MF-P]

3.3.5. Overview of group characteristics

The above sections provide a narrative introduction to each of the participants in the case study groups. For the purposes of comparison, key group characteristics are presented in Table 2.

Table 2: Case study group characteristics

Group name	Year started	Evidence of previous group activity?	Facilitator turnover	Steering group?
Northern Farmers	2020	Yes, in a project funded by the National Lottery	None	No
East Farmers	2020	Yes, charitable group	Medium – 3rd facilitator at time of writing	Yes
West Farmers	2016	No	High – 5th facilitator at time of writing	No
Midlands Farmers	2015	No	None in current funding period, but current facilitator is due to retire and is introducing her successor for next funded period at time of writing	Yes

The influence of the above differences, and the differing identities of each of the participants, is explored further throughout the empirical chapters.

3.4. Data analysis

The following section describes how the data was collected through interviews and observations and subsequently analysed.

3.4.1. Interview analysis

With the consent of all participants, their interviews were digitally recorded on a hand-held recorder. Recording interviews has several advantages, including ensuring the accuracy of findings and providing the opportunity to focus on the interpersonal nature of the interview (Simons, 2009). When conducting telephone and virtual interviews, recording required me to have my device on speaker, so I conducted the interviews from my pandemic home 'office' with the door closed to ensure participants' privacy.

Interviews were manually transcribed and uploaded to NVivo QSR 12 for analysis. The transcription process itself focused mainly on the actual speech contained in each interview; however, non-verbal utterances were included when there was clear meaning. When combined with notes I had taken during the interview, I was able to include details on the participants tone, body language (during in-person and virtual interviews) and specific nuances

relating to the individual, all of which help to contextualise the meaning of what they are saying (Simons, 2009). Though automatic and paid-for transcription services exist, through transcribing each interview myself I was able to maintain familiarity with the data, match my interview notes to the transcription as I worked, and consider recurrent issues which emerged from the interviews as I transcribed.

The data was first coded using pre-determined, deductive themes that followed Nahapiet and Ghoshal's framework to analyse the presence of the facets of social capital and the relationships between these facets. In addition, the impact of these facets on the exchange and combination of intellectual capital was captured. As collective action is not included in Nahapiet and Ghoshal's framework, additional codes relating to willingness and motivation to engage in collective action, and potential to exploit social and intellectual capital for collective action, were developed from the literature reviewed in Chapter 2. In addition, excerpts describing methodological issues were assigned a code to allow for the reflexive analysis which follows in section 3.5.

Coding is a systematic and comprehensive approach to building understanding of the processes at work in social and intellectual capital development. Thus, from the data clustered using these initial codes, emergent themes which captured the interrelationships of the facets of social capital, the factors influencing the combination and exchange of intellectual capital, and the two capitals' effects on collective action in the case study groups were developed. These inductive codes were then used to provide the structure for the empirical chapters that follow.

3.4.2. Observation analysis

As explained in section 3.2.3, I attended two events with each group still in receipt of funding. Details of these events, including pseudonyms for the experts, are given in Table 3.

Table 3: Details of the group events

Group	Event topic	Expert	Event mode
Northern Farmers	Farm carbon	Non	In-person
Northern Farmers	Rush management	Paul	In-person
East Farmers	Local water initiatives	Debbie [EF-F]	Online
East Farmers	Grassland and meadow management	Guy	In-person
West Farmers	Bat walk	Mick and Louise	In-person
West Farmers	Dung beetle walk	Jill	In-person

As described in section 3.2.3, handwritten notes were recorded at each event. These notes covered my observations of interactions between event attendees and the topics discussed during the event, along with my thoughts and feelings prior to, during and after the event. The latter are discussed in the following section, as it is important to reflect on how my individual situation influenced my position as a researcher. These handwritten notes were coded using the same approach used on the interview transcripts. Although measuring social capital was not the objective of this thesis, my notes from participant observation were particularly useful for providing context on the nature of the ties between group members, as I was able to examine the level of interaction. For example, discussions between individuals who shared bonding ties were often of a more personal nature. Conversations between members who did not share characteristics tended to be more tentative as they negotiated a common ground on which to develop their relationship, often related to the event they were attending. Relationships characterised by linking capital tended only to be discussed in participant interviews, as it was uncommon for members of Defra, for example, to attend events.

3.5. Reflection

Scriven (2018: 3) describes research as an 'iterative, socially embedded process'. For Simons (2009), research which employs a case study approach requires continuous researcher reflexivity to make sense of this process. Our identity, values and beliefs can have an impact on the research process, and it is important to be transparent in discussing how these attributes, and those of the people we research, may affect the production of our situated knowledge of the world (Sultana, 2017). The knowledge produced in this research is the result of an interplay between the methods chosen and an interplay of the aforementioned social constructions (for example, identity), thus, it can never be truly objective or considered an impartial truth (Haraway, 1991; England, 1994; Scriven, 2018).

The period in which this research was undertaken makes such reflexivity particularly pertinent, as the pandemic brought about intense change. The circumstances in which this research was completed makes it necessary to reflect on the modes of interview used and the medium in which events took place, how these may have afforded individuals the chance to partake in research, and how this may have affected power dynamics within the research.

The process of conducting online and telephone interviews was well-documented prior to the pandemic; however, the restrictions brought in to protect public health prompted a surge in interest in virtual methods and presented an opportunity for reflection on each of the approaches for research teams across the globe. Holt (2010) explicitly asked her participants about their experiences of completing a telephone interview. Trier-Bieniek (2012) argues that Holt's findings suggest a requirement for researcher and participant reflexivity during the telephone interview. I concluded from my interviews with facilitators in 2020 that the same is true of virtual interviews, now that they have become more prevalent. Thus, this research encouraged reflexivity by including final interview questions on participants' choice of interview mode and their experience during the interview. Table 4 (pages 81-

83) presents the advantages and disadvantages of each of the interview modes, from personal and participant reflections.

Table 4: The advantages and disadvantages of conducting interviews in-person, online and over the telephone.

Interview mode	Advantages	Disadvantages
In-person	Improved rapport – opportunity to make small talk prior to the interview itself. Body language played an important role in establishing rapport, and several participants recalled that they felt at ease being able to read my facial expressions as we talked.	The time required to take part in an in-person interview was too great a commitment for some participants.
	Visiting the participants gave me a greater understanding of their farming, or land management, context (as found by Riley et al., (2018)). For example, participants could demonstrate the benefits and issues associated with their current practices through a farm walk or the use of documents such as maps for context.	Meeting in-person may not be physically or ethically possible. There are specific health and safety concerns to consider in on-farm interviews, and, in the case of this research, with regards to the potential spread of Covid-19.

Online (Microsoft Teams, Zoom, Skype)	Meeting online reduced the overall time of preparing for and conducting the interview, for both me and participants.	Poor broadband connection can interrupt the interview process. Despite checking with participants prior to the interview, there were still occasions where both mine and their connections led to lags or freezing.
	Several participants expressed that their choice had been influenced by a desire to cut their/my travel distance to reduce the interview's climate impact. This is an ethical issue which I have not encountered in previous research projects, but which does echo the increasing climate concern.	Not everyone can access this format, for the reason above, or due to unfamiliarity with the software – potential for selection bias (Lobe et al., 2022). Several participants made this clear during their telephone interviews, with one anecdote of a colleague having to sit on Zoom calls in their car. Requires careful software choice.
	It is still possible to read body language – one participant said that they believed meeting on Teams was as good as in person, because it is 'virtually face to face' (however, it remains difficult to maintain eye contact).	Unable to establish wider context of farm/land to which participants may refer in their interview. However, given the specific focus of this research on social relations, this did not present a significant concern.

	Meeting virtually offered participants who were vulnerable but wanted to participate the opportunity to do so.	
Telephone	Preparation and travel time reduced. Interviews are easier to rearrange.	Unable to establish wider context of farm/land (see above cell).
	Can be carried out anywhere providing there is signal – participants can carry out their daily activities if required (which can lead to issues, see point 3, next column).	Unable to use body language to prompt further explanation or read when someone has concluded their point. Interruptions are more common.
	Commonly used form of communication in farming – many participants were happy to chat on the phone and some felt more comfortable doing so, contrary to Trier-Bieniek's (2012) suggestion that it would lead to a 'loss of natural conversation'.	As Carr and Worth (2001) assert, the use of a telephone means the researcher is unable to ascertain if participant is focusing fully on the interview – this can lead to repetition or short answers to open-ended questions. For example, one participant was making their lunch during our call and was interrupted by their oven timer.

The data collected through each of the interview modes is comparable; in each mode, the interview objectives (to examine participants' experiences of CSFF group membership) were met, and thus, I would suggest that offering participants their choice of mode is appropriate. This is particularly so as it can encourage more people to take part in research projects, an essential consideration given the growing level of participant fatigue I encountered as I entered the later stages of my PhD (see section 3.6). Despite this, it is important to recognise that having an opportunity to attend meetings in-person helped with participant recruitment, with several participants providing their numbers or email addresses and suggesting I get in touch to arrange an interview. As several authors suggest, building rapport is fundamental to successful interviewing. Additionally, the participant observation I conducted at events proved vital in assessing participants' relationships with their peers. Clearly, this would not have been possible to carry out over the phone, but it was possible to explore how technology mediates our interactions through examining the differences between the in-person and virtual interactions I observed at the respective events.

In addition to a reflection on the different modes of interview, and how these may have affected the researcher/participant relationship, it is also necessary to consider how my personal attributes may have affected the data collected. Thomas et al. (2019) suggest that the cultural contexts of farm work make interviews identity work, meaning issues of positionality are important to consider. I am a young, female, non-farming researcher; I occupy a similar position to those of Chiswell and Wheeler (2016) in their reflection on the implications of researcher positionalities in on-farm interviews. Contrary to some of Chiswell and Wheeler's experiences, I did not receive, nor overhear, unwelcome comments relating to my gender or age during my data collection. On reflection, this may have been the result of participants' familiarity with their female facilitators and the gender balance within each of the case study groups. As explored in the following empirical chapters, participants were largely trusting and respectful of their facilitators and overall, I observed civil interactions between group members at events, regardless of an individuals' gender or age (although the groups did predominantly consist of older

individuals). These experiences may have positively influenced participants' perception of me, as I had, essentially, been endorsed by their facilitators, and shared a personal characteristic with them. Fortunately, my experience echoed that of Chiswell and Wheeler's in that participants were generally interested in my research, and my non-farming background allowed me to pose questions which may have been dismissed if asked by a more authoritative figure.

Jack [WF-M4] and I explicitly discussed my role as a researcher connected to a university in our interview. Jack [WF-M4] expressed frustration at certain researchers who had collected data on his farm and failed to share the findings with him. This exchange reflects the importance of addressing the influence of power in our research outputs. Jack [WF-M4] had given the researchers a significant amount of his time; however, an exploitation of power on behalf of those holding the data meant he did not receive an update which may have helped him improve his farm practices. To address this, I shared initial research findings with my participants shortly after concluding my data collection and ensured they had the opportunity to discuss them with me.

3.6. Limitations

The findings presented in this thesis are based on a small number of qualitative interviews from 3% of the 136 CSFF groups in England which had been established at the time of data collection (41 new groups were funded from June 2022). This is a small proportion of the total CSFF groups; however, the aim of this study is not to quantify the outcomes of CSFF membership. Instead, it seeks to understand the conditions which are required for processes of social and intellectual capital development to occur, and how these capitals may be exploited by group members to prepare for collective action. The case study approach captures rich, context-specific empirical data. This ensures that sufficient detail regarding these processes is generated, which then provides a holistic insight into de Jong's (2010: 4) 'black box' that shrouds the relationship between social capital and learning. Analysing the empirical data with reference to the specific context of each group illuminates the contingent

conditions under which the aforementioned processes of development and exploitation occur (Tsang, 2014).

Ashley (2021) argues that research fatigue should occupy an important position in our considerations about conducting ethical research. Although Clark does not consider farmers and land managers to be an over-researched group in his 2008 article, it can be said that much has changed since then. Farmers and land managers have been asked to take part in an increasing number of monitoring and evaluation surveys. The desired co-design of ELMS has exacerbated this issue, with 1000s of farmers and land managers participating in Tests and Trials to determine how the scheme should be best designed. In addition, the reviews of the CSFF which I have referred to on several occasions contributed to further fatigue, specifically in the CSFF groups. Through the interviews I conducted, I learned that several facilitators' reluctance to take part had been a result of the changing management of the CSFF, as explored in section 4.1. Several participants expressed concern that for all their contributions, they were yet to see change. To manage participants' expectations regarding the immediate impact of my research findings I was explicit about my role as a researcher and PhD student, highlighting the research timeframe and my planned outputs. Overall, I found that participants expressed similar reasons for engaging as those found by Peel et al. in their 2006 examination of participants' reasoning for engaging with a longitudinal health study – their facilitator suggested it, or they were altruistic, explicitly suggesting that they wanted to help. As interview participants self-selected, it was important to triangulate their findings through observation where possible to ensure that the findings were robust.

3.7. Conclusions

This chapter has presented the research design. It has included an overview of the methodological approach, a consideration of the methodological changes necessary as a result of the Covid-19 restrictions, and an exploration of the advantages and disadvantages of the methods employed to collect data. It has provided information on each of the case study groups and the events I attended. In addition, the final section provides a reflection on conducting

research during the pandemic and the limitations of the research methodology. As described earlier in this chapter, I found myself researching not only the social and environmental outcomes of the CSFF mechanism, but also capturing the impacts of the pandemic restrictions on social order. As this thesis will go on to highlight, the impact of moving communication online cannot be underestimated, particularly in rural areas in which residents may have no or limited access to the internet and ancillary technologies such as microphones and cameras to take part in online meetings and events.

The following chapters of the thesis present the research findings (Chapters 4 and 5) and discuss these findings in relation to the academic literature examined in Chapter 2 (Chapter 6). The first of these empirical chapters focuses on the development of social capital in the groups, with a specific examination of the role of the facilitator in encouraging its development, its influence on individuals' decisions to join the group, and its importance in allowing groups to develop a shared understanding of the expectations of the CSFF and what they may deliver through the scheme. The second empirical chapter examines the group training event as a space of intellectual capital exchange and combination, considering people's reasons for attending, the impact of the event medium and the role of topic experts at events. Both empirical chapters touch on the ways in which the presence of the CSFF mechanism may prepare groups for collective action; however, there were limited examples of such action delivering measurable environmental improvements during the research timeframe. The reasons for this are explored further in the discussion in Chapter 6, before Chapter 7 presents the research conclusions and recommendations for future research and policy.

CHAPTER 4 – DEVELOPING A GROUP

4.0. Introduction

This chapter presents findings relating to the development of the CSFF groups involved in this research. It draws on the interviews and observations carried out to examine how the facets of social capital described in Chapter 2 encouraged members to join the group and explore how these same facets may have hindered the initial development of the group, particularly relating to farmers' and land managers' decision to join the group.

First, the chapter considers the application process, and the crucial role group facilitators play at this stage. It explores how facilitators must demonstrate their social and intellectual capital to create a strong application, and the importance of structural social capital and trust in this early phase.

Next, it considers how facilitators encouraged those in their networks to join the group and the facets of social capital which influenced this decision. Following this, the chapter examines how the same facets may cause some farmers and land managers not to join the group, with particular reference to trust, previous farming norms and their identities.

During the initial stages of group development, it is important group members negotiate a shared understanding of their aims, and this is the next topic addressed in this chapter. Finally, the chapter comments on the use of narrative to frame group goals, and how this may be employed to encourage group members to work collectively. Although there was evidence that group members were more likely to be willing to work together, this research found that very few environmental improvements had been made collectively, at a landscape scale. The reasons for this will also be explored in this final section.

4.1. The role of the facilitator

The facilitator is responsible for applying for CSFF funding. It is useful here to reiterate what is required of them during this process, both personally and with regards to establishing a new group. They must personally provide details of their experience and qualifications in agriculture, forestry, water management

and/or ecology, their experience of the objectives covered by CS and in bringing people together to act cooperatively. They must also provide two independent references who can confirm their knowledge and any results they have achieved. The application requires them to detail their planned service for group members, including any training and advice, and how this links to the CS priorities they include in the application. At this stage, they must also state whether any knowledge will be delivered by them, or by a subcontractor.

The group they are proposing must meet the following requirements. Each group member must complete a member form and confirm they have management control of the land, or their landowner's consent, prior to the group application. The facilitator must provide details of how the group will work together to achieve the group’s objectives, including details of CS priorities, the activities the group will undertake and any possible or expected results, and state a clear role for each member. They are also required to support their application with a map which shows the group’s area and the size of members’ holdings, names and Single Business Identifier numbers. The group must have an agreement which specifies how the group will operate and the way disputes will be settled. The group must be delivering CS priorities which are consistent with other groups and initiatives in their area, which requires their facilitator to have knowledge of such entities.

The application must meet all initial eligibility checks for it to be passed on for local assessment. Should it be successful at this stage, it is put forward to a national panel comprised of the RPA, NE, EA and the Forestry Commission (FC). Applications are scored on the facilitator’s experience and ability, evidence that the group will be able to work together to deliver improvements at a landscape scale and a value-for-money assessment. Should the score be greater than the agreed threshold, an agreement is offered if the budget is available.

As described in section 3.3, only two facilitators, Barbara and Maria, were the original facilitators for their group. Emily and Debbie had taken on the role from a previous facilitator, both of whom had been responsible for applying for funding. All facilitators who took part in this research, and those who had

moved on to new roles, were supported by their organisation throughout the application process. They credited this support with ensuring that they had the time to give to gathering members and writing the application. Barbara noted that had she not had her organisation's support, it would have been more difficult to make progress. She felt that this gave groups which were developed by organisations an advantage compared to those which were farmer-led. The application process required facilitators to demonstrate that they had the necessary social and intellectual capital to establish a group which would meet the requirements stated above.

Network ties were particularly important in the application phase, as Maria recalled:

> *There were staff members whose job it was to engage with farmers in the area, so we already had a good set of contacts in the [area], so when a round of CSFF opportunities came up again we thought it'd be a good legacy of our contacts there and a way to continue to engage with those farmers who we'd worked with on habitat improvements, and water quality improvements in the past through that project. So, I did the rounds and convinced, we've got 19 in the group, convinced them it was worth them signing up... I think it's the only way we would've got that many people in that space of time. It was a very short window in which to apply, and we would never have got anything off the ground without having those contacts in place. We did try, in the same window, to get interest in [neighbouring area] which is a neighbouring catchment but because we hadn't had any project like that there, we didn't have the inroads. [NF-F]*

Barbara's experience confirms the importance of developing network ties prior to applying for CSFF group funding:

> *Basically, we've got out there and we're known by a lot of farmers in the community... I've been with the [organisation] 17 years, and there's various projects that we've done that, with farmers, so I think it'd be fair*

> *to say that most of them had had some form of contact from the [organisation] over the years. [MF-F]*

Debbie did not make a CSFF application. She credits her predecessor, Isla, with introducing her to the group and ensuring she had all the information she required to continue running it:

> *I had a lot of info from Isla about different members, and a bit more understanding of their farms and their aims. She's worked in this area for over 30 years, she knows them very well. That was really useful, that's the biggest influence really. [EF-F]*

Although her experience relates specifically to funding delivered through her organisation, Chloe reiterated the importance of knowing an individual through whom she could access a wide network of farmers and land managers, as the timeline for funding applications in the environment sector is typically short:

> *All of this goes through Barbara; I don't speak with the landowners... if Barbara disappeared I wouldn't be able to get through to the farmers in that group. That's a barrier, you've got to keep the continuity of that key person that landowners are used to speaking to. [MF-P]*

Facilitator continuity is important for group motivation; this is explored in detail in section 4.2. Ross shared Chloe's thoughts on this matter, describing how his contact with Emily was useful in getting to know farmers and landowners in a new region in a short space of time:

> *I'd only just taken on the area, so it was a great introduction to, you know, they were my first contacts in the area, it was really useful. [WF-P]*

These network ties are essential for developing an application in the short timeframes given. For the 2022 round of CSFF funding, potential facilitators had just seven weeks and three days to collate all the information required of them. This would have included encouraging farmers and land managers to sign up, talking with other local CSFF groups, and a range of other bodies

including Local Nature Partnerships, AONBs, the EA or the FC, to establish the CS priority activities already underway in the area. As the facilitator quotes above suggest, working with or for such organisations for several years set them up with the contacts they required to ensure their application was coherent and complementary of other ongoing projects in their area. Importantly, this meant that they could confirm the required information in the timeframe given. Maria also noted the value of having other facilitators with previous experience nearby; she turned to Anwen, who had been successful in three applications, for support with her application for the Northern Farmers group. The above experiences demonstrate how crucial the structural dimension of social capital is in the initial development of a CSFF group.

It is also clear how important facilitators' initial intellectual capital is in informing their application, with their experience and ability a key metric in the assessment. First, they must know that the CSFF scheme exists and the timeline for submission to prepare an application. They must have demonstrable prior experience and knowledge of topics their group are likely to cover, and an understanding of how they can access experts on topics which they cannot deliver themselves.

The application process is intensive; however, Barbara did note positive change in the overall administration required since she had first applied with the Midlands Group in 2015:

> *The RPA have actually gone out of their way to simplify things, because facilitators were actually being reduced to tears because the paperwork was just preventing them from getting out and doing anything. [MF-F]*

This change, and the success of the Midlands Farmer group, encouraged her to apply for another round of CSFF funding for the group, so that they could continue to pursue the collective goals they had worked hard to develop over the six years of their initial CSFF funding. This decision was also based on Barbara's experience and her understanding of the RPA's expectations for the scheme. As the RPA are the executive agency responsible for administering the scheme, access to their intellectual capital regarding the CSFF is essential.

Although facilitators have a contractual obligation to relay information back to the RPA, there must be a trusting relationship between the RPA and facilitators, both to ensure facilitators are motivated to engage with the agency and to ensure both parties find value in the information they exchange.

For facilitators, a streamlining of CSFF processes is an important step in ensuring they can provide the best service to their group. There is also recognition of the importance of social networks and support throughout the facilitation process. The Covid-19 pandemic exacerbated the erosion of some networks, but it also saw the emergence of attempts to revive a sense of community for facilitators in the form of virtual drop-in sessions with the RPA. These were welcomed by the participating facilitators, but often became question and answer sessions with the RPA, rather than an opportunity for facilitators to speak with one another. The sessions were also difficult for some to attend as they were always held on a Friday:

> *There has definitely been an effort by the RPA, they were running a series of clinics, in a sense... they were running a series of events where to be honest, they spent most of their time saying they were really sorry, and they really appreciate this, and they spent so much time saying they were really sorry that I just thought we're actually not getting a chance to talk about what we've rung in about – Barbara [MF-F]*

> *I've attended a few of those, I haven't, I don't go to all of them because there's just not time... it's reassuring listening to the problems others have been having, but in the end, I've just had to limit the amount of time I spend doing that and listening to that as I'm now aware of what those problems are. I sat in on one or two of the RPA calls and I thought the people were trying very hard as individuals to improve the process. – Debbie [EF-F]*

> *I attended one with the RPA, talking about how everything was run and it was a consultation one, but they're often on a Friday and I don't work Fridays, and a number of facilitators have brought this up a number of*

times, “please vary the day you do the catch-up calls because not everyone can do a Friday” but they’re still on a Friday. The thing with the CSFF is that most of the facilitators are part-time, so it’s not a full-time role, there needs to be some flexibility with the days the catch-up calls are on otherwise you won’t get everyone in. – Emily [WF-F]

Here we see a conflict in organisational norms which has an impact on facilitators’ access to the RPA for the exchange of intellectual capital. Where the RPA would commonly have staff to deliver sessions on a Friday, the facilitator’s role is varied and often dictated by other work they must carry out on behalf of their organisation. This issue also becomes important when considering the facilitators’ ability to exchange any new intellectual capital which is generated through the group’s collective experiences with government organisations, a topic discussed in section 4.2.

Although the drop-ins had not been exactly as she had expected, Barbara appreciated the efforts to bring facilitators together again. She described how there had been an effort to develop communication between facilitators across the country in the early years of the CSFF, with a conference in Birmingham for facilitators at the time, but it was difficult to sustain contact and the network had largely been lost. She expressed concern that an organisation with several groups was attempting to monopolise the region she worked in through selective use of its larger network, and described how, for the benefit of innovative landscape-scale working, she felt it was essential that facilitators collaborated across their organisations:

I fundamentally believe we need to collaborate with those we’re afraid of collaborating with. [MF-F]

Aligning facilitators’ aims for their groups, and their understanding of how landscape-scale change should best be managed, is the key to unlocking landscape-scale improvements for Barbara. She explained her vision for a wildlife corridor across the whole county:

What I’m doing is describing to them our picture, not saying it’s the final picture, but our picture of a corridor weaving its way through [the

county], joining up with other CSFF groups, so we're not just the Midlands Farmers, but it could be the [county] CSFF groups collaborate on many levels. [MF-F]

Where a network of facilitators exists, it also becomes possible to share trusted contacts for events. Facilitators can discuss the suitability of an expert and endorse their work, which can influence others' decision-making processes for the same type of event. For example, Non was mentioned by three of the four participating facilitators and she delivered the carbon event I attended with the Northern Farmers group. The value of having experts attend events is demonstrated in section 5.5.

In all groups, the facilitator was considered a central node in the social networks, a trusted contact through whom group members could access support and knowledge. They are responsible for advertising the group in a way that would appeal to all farmers and land managers in their geographical boundaries. This process is discussed in more detail in the following section.

4.2. Encouraging membership

The initial creation of CSFF groups gives people the opportunity to meet others in their local area, with whom they wouldn't otherwise necessarily interact. Where levels of bonding and bridging social capital were already high, participants described a positive experience regarding their initial awareness of the group. This was particularly so in the Northern Farmers group, where previous collaborative schemes had allowed farmers and land managers to work together with the AONB and several partner organisations, such as Freya's, before. Maria describes this in her quote above; however, the importance of having already developed trusting, supportive relationships with the AONB was clear in member interviews too:

There's an amount of trust between the community here and [the AONB] because they don't come and dictate how things should be done. We've always had conversations about things and they've never said what we should be doing... it's informal, it's just been a group of people getting together, even with the AONB involved, it was good, it

felt like a social event as much as a learning exercise. – Arthur [NF-M1]

We feel now probably a closer working relationship with the AONB and [Freya's organisation] than there ever has been before. It's a very well working partnership... the AONB is great, because there has been a relationship that you build up with people stable in their jobs, that has been a massive benefit. – Fred [NF-M2]

Several farmers also grazed their sheep on the common and shared a common land agent, Owen. It was clear from both interviews and observations that this high level of bonding social capital drove the group in the early days and sustained it through lockdowns as many group members continued to support one another:

Fred and Arthur were chatting away about everything and anything (which is very common, apparently) - from field notes, 6th October 2021. [NF, event]

We've got to be trustworthy with each other because we have common land with sheep on and you return each other's sheep when they turn up on your land and everything. It's a proper community environment, we've all been here for generations really, or at least up to now, most of them have disappeared really, but most still here are like me, where they've farmed, their fathers had the farm, their grandfathers had the farm, and you build up a trust amongst them. – Arthur [NF-M1]

So there's that kind of helping each other out, I mean when we, our pipes froze the first winter we were here and we had offers from people we'd never even met to go and have showers at their places and to wash clothes if we needed to. – Rosie [NF-M6]

As Rosie's quote demonstrates, farmers who had lived in the area for decades were happy to support those who have recently moved into the area, and in her experience bonding ties developed quickly during her first months in the area. Although some group members have worked alongside one another for

generations, their work does not relate specifically to collaborative working for environmental benefits. These activities had been carried out prior to the establishment of the group, and as Owen suggested, they would continue based on the pre-existing bonding ties that have developed in the Northern Farmers' area. In fact, Maria believed that 'the majority of [the group] were willing to sign on the basis there would be no bad consequences for them, it would only be something good... they didn't really know what they were signing up to'. This is an issue across CSFF groups with group events being on specific topics which do not necessarily relate to a group's overall aim, nor any dedicated funding for landscape-scale activities.

The East Farmers group brings together group members from a more diverse background. The group also developed out of a previous scheme in the area; however, here it was clear that high levels of bonding capital between a select group of landowners had led some participants to feel excluded from the group. As Lewis describes, it is important to 'win their [potential members'] hearts and minds', which he felt would not happen with the group's current configuration:

> *I'm finding most, there's a predominance in our particular group of, I don't know how to describe them kind of, it's wealthy recreational landowners who have moved to the country albeit, you know, it might have been a while ago that they moved in. But their core thing has never been producing, it's never been farming the land. They're kind of, they've got a nice house with some land and that's the dominance in our group and it kind of sets the tone a little bit in our group. I personally think we need more farmers in our group for it to be more effective and for it to be a bit more real and practical. At the moment, it's all jolly nice and it feels like there needs to be more kind of questions asked from farmers in the group. Like, 'Okay, this is great. But how do we earn a living?' sort of thing. Because I think a lot of our members don't have to earn a living from their land. It's kind of a part of their property, whereas farmers have to somehow earn a living from their land and building assets. Whereas most of our members, I think, are earning their money*

outside of that property. So, the property is just where they live, and they're genuinely very interested in doing as much as they can conservation-wise. So that's really great. They're doing a good job with that. It's good the land has been managed in a positive way in that regard. But I think if we had more farmers, I think you might have more effect, as it were, across a larger landscape scale. In [the county] over 70% of the land is farmland. So, if we want to have a real effect across the landscape, you've got to get farmers on board. So somehow you have to win their hearts and minds, and it has to be possible and practical and somehow, they have to earn a living. [EF-M3]

For James, it was a lack of trust in other group members that motivated him to join the group, to ensure farmers' opinions were heard:

I wanted to join because the majority of people that are in it are not farmers, and they were steering political decisions on the back of being farmers because they own land. [EF-M4]

The above quotes demonstrate the complexity of establishing a group, and the number of facets of social capital at play in this initial stage, including network ties, network configuration, shared narratives, trust, norms, obligations and identification. Each of these facets influenced participants' decision to get involved in the group, and motivated their actions once they were members. The East Farmer group's facilitator at the time of this research, Debbie, recognised the imbalance in her group and was conscious that it should be addressed:

I was talking to Isla about it this morning, how do we engage the farm businesses more, the quieter ones on the list who aren't as actively engaged in the group activity yet?... It's a case of thinking about how we can engage those farms more, times of visit, what sort of visit, the topics we're covering that are more applicable to them, not expecting them to rewild their whole farm and not giving the impression we want to do that. [EF-F]

For Debbie, and her organisation’s team, working to engage farmers is a priority; however, this is a complex process given the need to balance farm and policy requirements. The issues this presents regarding membership are explored in section 4.3. Debbie also touches on the factors that facilitators must consider when organising an event; these are described in section 5.1.

Some members of the East Farmers group approached their contacts to join the group, but this tended to be limited to those who were already in relationships characterised by bonding ties, rather than approaching individuals with different identities. This meant that some farmers only became aware of the group through searching for more information following mention of the CSFF in an unrelated event, as Lewis describes:

> *I found out about the East Farmers group by proactively finding out about it. It didn't come to me. I went out and sought it, I suppose not knowing that it existed almost. I think I went to a [local conservation NGO] meeting and heard about the CSFF and then researched and found out about it and eventually got invited to one in my locality. I think if I hadn't have sought it out, it wouldn't have come across my radar. So if I was in, you know, a few years ago, when I was full on farming, I wouldn't have had time, and it wouldn't have come across my desk I don't think if I was just core sort of commercially farming. I don't think it would have been on my radar. [EF-M3]*

The East Farmers group has, to an extent, been successful in encouraging the development of bridging ties. The group brings individuals with different views together and provides a space in which members can negotiate a shared understanding based on mutual experience. This was demonstrated at an event on managing grassland and establishing meadows, which will be examined in detail in Chapter 5. Despite James’ wariness, he recognised the value in accessing such ties to overcome issues with redundant knowledge:

> *You only learn what your father thinks is right, so therefore, fifty percent of what he knows, you don’t learn, because he doesn’t think it’s all right. So, you get narrower and narrower. [EF-M4]*

Regardless of the group age, size or location, access to bridging ties was important to all members. In the Midlands Farmer group, Barbara described how 'bringing in newies' kept relationships alive and ensured new, up-to-date knowledge was shared within the group. This approach was common across the groups, and members recognised the benefits:

> *The chance to introduce ideas from outside, the chance to hear people from other environments, be they farming or conservation, yeah, I think it's a great idea – Daniel [MF-M4]*

> *I always say if you always do what you always did, you'll always get what you always got. If you don't keep your ears and eyes open, someone might, on the off chance, have a better idea than you, you might think it's unlikely, but there might just be someone in the world who's better at something than you. – Jack [WF-M4]*

Several participants recognised the role they could play in imparting knowledge to incoming group members:

> *It might help the some of the younger generations are coming into farming to get better understanding of environmental and other farming issues from some of the older farmers. – Fred [NF-M2]*

Participants' experiences demonstrate that in joining the group, they found they could access information which they may not otherwise discuss in their everyday conversations, and that this information could, in turn, help them develop new network ties through which they could access resources. For example, Darren's openness to the exchange of knowledge allowed him to access individuals with whom he could share green hay to enhance his meadows. Following several events in which he shared his experience with wild bird cover and floristically enhanced margins, he described how knowledge started 'coming back' through new contacts, whom he would later visit to learn more about their meadows and the potential for seed harvesting.

Another significant draw was that membership of a CSFF group was seen to give a temporal advantage in access to information. The CSFF cannot offer

one-to-one advice; however, the presence of a facilitator was seen as a key benefit by many participants, who felt that access to a specific individual reduced the cost of accessing key information. For example, Emily distilled all information she received from a range of sources into regular emails. For Olivia, who works for a national quarry company and is responsible for sites across the southwest of England, this was vital, as it allowed her to access information relating to land management for the site within the West Farmer group's boundary without a significant time cost.

The CSFF group development process was also considered to be a mechanism through which the collective intellectual capital developed in the group could be transferred through linking ties. For some participants, this was essential, given the changing agricultural support landscape and thus represented a significant draw into the group:

> *Take the likes of Defra or the EA, they can learn to understand [Barbara's organisation] and its role in everything, but how can they learn to understand every individual farmer or land manager and their commitment? It's impossible. So, they, you know, those big wheels have to rely on somebody, like [Barbara's organisation], therefore we as the, you know, the tiny cogs have to also engage with [Barbara's organisation]. So, we meet, you know, the meeting point is [Barbara's organisation]. – Grace [MF-M5]*

Daniel felt that this was something Barbara did well:

> *I'm assured we are being listened to, when we respond there is, our contribution is valued. When Barbara reports on our activity she says our contribution is heard which I'm reassured by actually. [MF-M4]*

However, certain participants remained dubious about their group's potential to deliver experiential information back to policymakers. Thomas discussed how this period of change to agricultural support required those directly affected to get involved in consultations; however, he perceived there to be a reluctance as the anticipated changes to agricultural support were so

great. He also described how this was likely to be driven by uncertainty as to how the feedback loop worked:

> *The other aspect is an expression of frustration at how we get these lessons and ideas back to policymakers... I don't know how the CSFF group is supposed to feedback, how policymakers are supposed to pick up on that, I don't know. What I do know is that policymakers prefer a one-size-fits-all because it's so much easier. Getting over that we want a future in which we look after our landscape and environment in a devolved manner... is not an easy problem to solve because the government don't work that way. – Thomas [NF-M5]*

Several participants commented on the perceived difficulty of transferring information up the chain to ensure it reached individuals who could make use of it:

> *Esme: I remember, we went to one of the facilitation meetings and there was a really good speaker. He said the problem with Defra and all those sorts of people is they all think in silos, you won't find a solution thinking in a silo.*
>
> *Michael: That's where Barbara came from, she was sponsored by sustainable farming, and they put her in Defra. She was trying to communicate between three departments, and she said none of them had any idea what the other department were doing, even though they were inextricably linked. [MF-M3]*

Rosie recalled her career, suggesting that, just as group members preferred seeing results in-person (see section 5.3.2), policymakers would benefit from understanding what was happening on the ground:

> *I was a senior civil servant for a long time in my career. Policy wallahs are really bad at understanding what works out on the ground, and I know that from experience, so I used to make sure people got out on the ground to see what was going on. [NF-M6]*

The topic of getting policymakers into the AONB also came up at both Northern Farmers events. There was concern that, despite the Tests and Trials approach to designing ELMS, the experiences and knowledge of hill farmers in the north were not reaching those developing the schemes. Freya described how her concern that the disparity between local environmental conditions was not taken seriously developed when a group from Dartmoor visited their reserve:

> *It was just after Defra has announced these new schemes and they didn't want supplementary feeding of stock in one of the options and this one woman in particular was anti-feeding stock, she saw that as being you had too many stock, but she farms on Dartmoor where the grass grows 12 months of the year, whereas up here in the [AONB], if your grass grows six months of the year, you're lucky! So, you need to be able to feed them for the other six months you need to get food in or hay, or if it snows for a long time, she just couldn't get it. It was, she still didn't agree at the end of it that farmers should be able to provide forage for their stock in the winter time, she said you can move your stock down to lower ground in the winter, she just didn't get it at all, but we tried. Yeah, so yeah that one size fits all approach is a bug bear of mine, it's very different in different parts of the country. [NF-P]*

John felt that the presence of a group was an ideal way to address this issue. He considered the group a site for developing innovative solutions to local issues and that, given their size and networks, they would have no issue with demonstrating the value of the work they were carrying out. At the time of interview, he was considering inviting their local NE area manager to group events:

> *I think there's an NE area manager, it would be really good for him to come and visit the group because I think this group will make a difference at the landscape scale... I can ring [group member] and say can I have [the area manager's] number, so it's about connecting other people into that network. [EF-M1]*

We again see the importance of networks in establishing groups, and here we see how linking capital may ensure that the intellectual capital exchanged in CSFF groups can make its way through networks into policymaking discussions.

Participants considered facilitator continuity essential, particularly given the time it takes to develop intra-group relationships and the importance of facilitators' network ties in this process. The West Farmer group struggled with this and Emily felt that it had an impact on the momentum of the group:

> *So, I came into the group, so I think if they'd have known me better things would've got going a bit more quickly than they did. I think if the group had been set up and run continually by an established advisor in the area, I think it would've gained a lot more momentum more quickly. [WF-F]*

Later, in our discussion about barriers the West Farmer group had faced during their time together, Emily said:

> *The main barrier would be the changes in facilitator. It has been significant in that Jay, who worked in the area for a long time set the group up and then he left, then there was Jess who was less well known to the farmers ... then she left and then I took it on from then, but I've had a break for maternity leave. We had a facilitator cover my maternity leave, but they left after three months because they had an issue back on their family farm, so they had to take on more of the farming operation. When I came back it was lockdown, so we couldn't do face to face stuff, so it's been really disjointed in that respect. I think if I'd been in it from the start, or Jay had been from the start, he knew everyone and I think we'd have achieved a lot more, it's all about the relationships isn't it. [WF-F]*

Emily's comments reinforce the earlier findings that the facilitator is a central node in the group. She also described how the group's activity halted completely during her maternity leave as there was no one willing to coordinate events. This, combined with a period of furlough during the first lockdown,

meant that she had to work hard to generate interest in group events on her return.

Barbara has been the Midlands Farmers' facilitator for all six years of their funding. This continuity was seen to deliver several benefits:

> *Barbara has been, well, it's all about her actually... her management of [her organisation's] farm, she has knowledge of policy, she's an experienced agronomist, she has a lot of knowledge about farms and particularly conservation on farms now in this area, so she knows what sort of things might be beneficial or doable or appropriate. She's good at linking people up, so if you say 'I'd like to go and see so-and-so's meadow', she can make that sort of connection, so yeah, a multi-talented woman. – Grace [MF-M5]*

Darren considered Barbara's continued work in the area important for both farmers and land managers, and for her organisation, as he felt that the facilitator's role was about learning too:

> *It goes both ways I think, which I think is good, I think she takes on stuff from the farmers that are maybe more practical things, maybe easier ways of doing something, or maybe a practical way and I think it's been quite a learning curve for somebody like Barbara. I'm sure when she joined the [organisation] the idea was to show farmers how to farm in an environmentally friendly way and still make a profit, I think they've given up on that personally! [MF-M2]*

Barbara demonstrated that, although continuity is beneficial for the above reasons, it can present an issue:

> *Barbara: I suppose, thinking about that there could be the risk they become attached to a facilitator and it's a bit dodgy if it's one person and if they go splat for some reason... no facilitator should try to become an icon, it's the message what can we do for you, this is how we can do it and these are the people who have the skills to help us navigate us through this massive period of change.*

Aimee: So setting boundaries for yourself.

Barbara: Yes, and letting go, that's very pertinent to me! Like most of the farmers, I'm 63 and I'm meant to be semi-retiring at 66, what am I going to do? It's like, I'll do some of these whole farm plans, I'll keep my toe in the water with all of this... but my manager has realised there's all these attachments, relationships that have formed, so now I've got Jim, who literally this week I'm introducing as my successor, but I'll still be the facilitator for the time being. [MF-F]

This was reflected in her group members' comments, as they acknowledged how significant Barbara's contacts had been in getting the group to the position they are in now, and described how it would be difficult to find someone who had as many connections. If collective approaches are to be successful over long periods of time, succession planning for facilitators should be on groups' agendas, as it has been for Barbara. This is particularly true if a group is hoping to reach a stage at which they can collaborate without a facilitator.

This section has presented participants' opinions on the value of the group and how they use the group to access knowledge which may otherwise remain unknown. It has also reflected further on the value of having a facilitator to manage the groups' activities. The following section explores the reasons why groups were not yet encouraging all farmers and landowners in their area to sign up and attend meetings.

4.3. Issues with encouraging membership

As described in section 4.2, an individual's existing social capital influences their decision to join a group. This research did not seek to speak specifically with individuals who were not members of CSFF groups, but the issue of access did arise in several interviews and thus, this section will explore the barriers that participants considered to be an issue. An individual's opinions of delivering environmental benefits will have an impact on their decisions to get involved with AES, and consequently, collaborative forms of AES. The following current group members' quotes highlight the impacts of their

personal beliefs and the norms driven by changing agricultural policy over the last 80 years:

> *The top allotment is OK, I used to be really proud of them because there wasn't a single rush in the field, it used to be beautiful grass. When you were up on the top of the fell during your grouse beating days, you looked on our allotment and I remember me neighbour saying that's how an allotment should be, green grass, all lovely green grass and I remember thinking deep down I still miss the fact it was all lovely green grass and I could keep a lot more stock on and everything did well in it. It's a shame it's got a lot of rushes now, which is probably beneficial but you know, it's still slightly difficult to accept that as being progressive... The environmental work, I know that's the way forward but it's not what I want to do really, I just want to get on with farming. – Arthur [NF-M1]*

> *This wasn't mentioned yesterday but it's a function of government policy, after the Second World War, we were starving. So, we had, we had a policy of produce produce produce produce produce within that. Improve your land, make it better. So, there were thousands, millions of pounds, spent on draining land you know, through the 40s and 50s into the 60s, probably in the 70s. There were farm improvement schemes all the way through and Fred probably said he took on the farm in the late 80s and he was still in the farm improvement scheme in the 80s and all through that time, production production production, the more you have, the more you got paid and then they changed their policy. So, they've now turned it on its head and said well we, we want to manage this land, we want to restore this land, so having spent 40, 50 years draining moorland down, we're now spending millions and millions of pounds rewetting. I'm not saying that's the wrong thing to do, but it's not the farmers' fault. That is the way it is, they've been encouraged to increase those numbers to feed the nation. Now, they're being told the opposite. – Owen [NF-M7]*

> *I went to ag college in 1966. There was no mention of environment then, all it was was produce the maximum. If you bear in mind that I'm 72, the*

average age of farmers is 60 plus, they will all have gone through similar educational things that I did, those that went to college. It's indoctrinated into their heads to produce, all this is new stuff to them, we've got to learn to change and old farmers don't change quickly unfortunately... I've farmed through all sorts of different eras and it's hard. I loved the 70s when production was very much the thing, primarily we were very naïve about the environmental damage, we were doing what we wanted to do but we hadn't a clue about the environmental damage of those things. When I left school and worked on a dairy farm, we used to have a sacrifice field they'd spread slurry on, then when it got too wet there we'd go spread it down the tip and it used to run down the watercourses, nobody gave a jot about it then in the 60s, that was highly, highly wrong and polluting and we're now facing the legacy of that. What I hope doesn't happen is we overreact to that, because this can easily happen and it's happened a lot in the past, I think we're living in good times at the moment, if we can get the balance right... and by that I mean environmentally friendly food production but still having, there's no doubt any form of manufacture and food production is going to have some environmental impact and one has to get the balance right otherwise, if we strive for nil on environmental pollution then we'd die out. – Ben [MF-M1]

Ben's comment that 'farmers don't change quickly' is significant, as those involved with CSFF groups must invest significant time in developing relationships and demonstrating the value of collaborating to those who are unwilling to join. Often, the three years of funding was not considered long enough to make this change; as Barbara found, it had taken six years of funding to encourage a farmer she had known for several years to join. This issue was magnified for the 2020 groups who were unable to hold in-person events for approximately 18 months of their funded period. The impact of event medium on knowledge exchange is explored in detail in Chapter 5.

Some participants described how a culture of independence led their neighbours to be suspicious of groups which require them to follow norms of

openness and cooperation. This was also evident in some participants' reluctance to share much about themselves and their enterprises at events. Owen described how many farmers in the Northern Farmers region had always lived in relative isolation, only coming together for sales at local auction marts. During this time, conversation would focus solely on dressing their sheep for auction and there would be little exchange of other information. He was not alone in considering some farmers to be dubious of the overall aims of the CSFF because of their beliefs, as Thomas expressed:

> *Trying to get the rest of the farming community involved, who traditionally are conservative, I struggle to think of ways to do it. [NF-M5]*

Oliver suggested that the key to doing so was overcoming the differences between 'incomers' and farmers:

> *There seem to be more incomers and they're very, very vocal... I'm pretty sure some of my neighbours, I'm quite tolerant but a lot of my neighbours won't be, they'll just think well I'm not even going to bother turning up, they'll have nothing to do with it. I found yesterday interesting, but you see, other people that are put off are going to miss out on that information. [NF-M3]*

Given the tensions between some farmers and landowners in the Northern Farmers group, Freya felt that she and Maria could make better use of the local auction mart to make the CSFF processes more transparent, thus encouraging more people to get involved. For farmers in the Northern Farmers and Midlands Farmer groups, marts were seen as a key location for networking, and several reiterated their importance. However, even within family networks some participants found it difficult to demonstrate the value of their CSFF group. They discussed how their family members had refused to be involved in the CSFF, because it did not align with their current work:

> *Aimee: Is your son part of the group?*

> *Arthur: No, he, he thinks days like this are a waste of time. He's out dry stone walling because he's got so many meetings to do before winter sets in, so he would see this as, I think he's gradually getting a little bit more, I mean I feed back to him with everything but I think he sees the way it's going is necessary but he leaves that to me, I'd rather he was here instead of me but it's not going to happen. [NF-M1]*

Facilitators and group partners are aware of the complex nature of the decision required to become involved in a collaborative process, and as Freya describes, are attempting to develop the social capital required to improve non-members' knowledge of the CSFF:

> *It's been on the back of my mind the fact that, even in an area where we do know lots of farmers, there are still ones we don't. There's good reasons for that but it would be nice if they had all the information, you know. When I talk to a farmer, I'll ask 'is there another farmer nearby I want to get to know?' I'll mention it occasionally depending on the farmer to try and develop links slowly, but it always takes a lot of time, the one thing we don't have very much of. [NF-P]*

As we have seen, developing relationships in which a group facilitator or partner's endorsement of the group was trusted enough takes time, something of which is in short supply for CSFF groups if they are to make headway during their funded period. This is particularly true for those who started in 2020, as the pandemic made it very difficult to recruit new members. The experience of the Midlands Farmer group does show that with time, it is possible to onboard members who might have once been considered a 'lost cause'. Barbara's commitment to the group and her region was appreciated by all her members who participated in this research. Her work with farmers and land managers across the region, regardless of their membership of the CSFF, was seen to be crucial in convincing people to come on board. Michael and Esme commented on how, through her commitment to the group and her willingness to understand potential members' concerns, Barbara had managed to engage farmers who they had thought would never be interested:

Esme: The thing I really like about Barbara is that she will listen, she listened and thinks about what you're saying to her and maybe agree or disagree, but she always is pushing us in a new direction. I mean she's got farmers who would never…

Michael: You'd never have thought they'd do it!

Esme: … never wanted to get involved in a group like hers. [MF-M3]

Barbara had undertaken over a decade of diligent work to understand the business and personal requirements of farmers and land managers in her area. This allowed her to approach individuals personally to demonstrate the aims of the CSFF and how it would be suitable for each farming business during the initial application stage, and beyond. Increasingly, this has been something she has been able to align with developments in ELMS, where she is sympathetic to the difficulties caused by the uncertainty for farmers in the area, yet aware and keen to illustrate the benefits of working together by encouraging people to join the Midlands Farmer group.

Although social capital has a significant bearing on people's decisions to join the group, and is a central focus of this thesis, the importance of economic capital and ensuring their farm business is successful cannot be underestimated, and was often considered a key driver in people's decisions not to join, as the following quotes demonstrate:

I think one of the other things is we've got a lot of bovine tuberculosis (bTB) in the area and quite a few of the members get shut down periodically and lose stock to it. I think some of them are just having a really tough time and for them, doing environmental things is just so far down their list, and they're dealing with shutdowns and having stock culled and all that. I think some members are just a bit snowed under with the realities of farming, they'd like to do more but financially they're struggling, they don't have very much time. I think that's a factor for some. – Emily [WF-F]

I can think of lots of farmers around here who couldn't give a monkeys about that, you know? They're there to make money and if they're running a good business, it is doing just that, I can't really blame them for that. – Daniel [MF-M4]

They don't want to give up land into GS1 or GS2... they need every blade of grass growing green, with stacks of synthetic fertiliser on it to feed their cattle. – John [EF-M1]

Henry: I think that it would need somebody who's a local farmer established knows them all since they were, you know, knee high to give it a go... somebody said that it takes a local farmer to do it and they need to do it for a long time and demonstrate it's successful, demonstrate they're making more money than the other farmers before any others, if one of them cracks and joins in, then they'll all suddenly follow as long as it makes financial sense.

Aimee: So they need a practical demonstration that all this is actually working in a business sense?

Eliza: It's going to be very much about money. All the conventional farmers I've met round here are governed largely by money. [WF-M3]

These comments, and those above from Arthur, Owen and Ben, highlight a significant issue: the tension between production, and the associated economic capital, and the motivation to engage in environmentally beneficial practices, the subsidies for which may not be considered as lucrative. Several participants described how changing their farming practices had lowered their input costs, but as Henry highlights, it often takes a locally respected farmer, or more than one farm, to demonstrate the benefits of a new practice before it is adopted by others. The potential for in-person meetings to influence participants' decisions is described fully in section 5.2.3.

The generation of economic capital, and thus the health of their business, and generational norms and values clearly play important motivating roles in farmer and land manager decision-making – recall Lewis' comment about

‘[winning] their hearts and minds’. This research found that encouraging engagement was particularly difficult given people’s prior experiences with AES. This should not be overlooked in the development of future schemes, particularly relating to the flexibility required for group members to try things that could benefit the environment. From her experience in the Civil Service, Rosie recognised that the change required would be difficult for the RPA, but feasible and necessary to capture the learning which occurs in CSFF groups:

> *I think a joint enterprise, rather than feeling like Defra and the RPA are the disciplinarians or the monitors, a joint effort where we all agree on what we’re trying to do but we’re doing it in different ways according to circumstances, with the flexibility to make change and learn, because if you don’t have flexibility you can’t learn and when you’re dealing with something that’s complex you can’t know when you sit down what you need to do because there isn’t any certainty about what causes are. So, in that sense what you do is you learn your way forward and that’s a very different approach and it’s probably a bit counterintuitive for the RPA but that would be great, a very flexible scheme where you learn your way forward, you could make changes and you really see the benefit of what you’re doing and feel like it’s a joint endeavour [NF-M6]*

Ensuring the CSFF functions as a space in which group members and facilitators can make knowledge exchange processes work best for them is essential. As these comments have highlighted, it is essential to build trust between groups and government agencies and recognise the importance of making economic capital available.

The above examples show the importance of the development of cognitive and relational facets of social capital, as at present, it is these facets which hinder involvement in the CSFF group. The following section will explore these facets in relation to developing an understanding of what each CSFF group aims to achieve.

4.4. Establishing a shared understanding of the aims of the CSFF

Another important element of the groups' work is their ability to work towards collective goals. Initially, this required a negotiation of what exactly it is that the CSFF asks of them as a group. As Maria's quote on her group members' reasons for joining in section 4.1. demonstrates, although it was considered a positive development, there was uncertainty as to the exact requirements and aims of the CSFF. The following examples explore participants' expectations and understanding of the scheme in more detail, and the ways in which facilitators tried to establish a shared understanding across their groups.

Thomas described how his understanding of the aims of the CSFF had changed since he had accessed group events, and stated that this was because:

> *What we base our view of the world on changes so much depending on what becomes available to us. [NF-M5]*

For Thomas, the disjuncture in world views was concerning, particularly regarding a term which is central to the CSFF: landscape. As he describes:

> *We've got to resolve the issue between the landscape aspect of it, which is what the AONBs are all about, and sustainable agriculture... [The CSFF] is about facilitating farms to make progress, it's not a landscape facilitation fund... [NF-M5]*

His present understanding of the aims, as developed through attending group events, was not the same as the understanding he developed through his own reading on the government website. Thomas's concern about the various interpretations of the aims of the CSFF, and the concept of landscape, was also demonstrated in the Midlands Farmers' group. Daniel's interpretation of the word landscape demonstrates that his vision aligned with that of the AONB described by Thomas above:

> *If you focus on the word landscape, I think appearance, I think of appearance as superficial, what you see is not necessarily what's "good" landscape. Landscape per se is about pleasing the public,*

mainly sitting in a car and driving through it, possibly walking, and I see no environmental benefits in "landscape", I find it very superficial. [MF-M4]

Barbara argued that her organisation were aware of farmers' concerns regarding the focus of the Midlands Farmer group, and, as she explains, they have carried out work to ensure the organisation's agenda is not only public pleasing, but that it works for farmers too:

We've done 20 land management plans and these plans have given us an insight into how [the farmers] see the future of farming being, which then comes into our monitoring of the [organisation] to make sure the [organisation] is not trying to decry production and intensive farming, we're assuring them we need to see things in harmony here, and we're certainly not out to rewild [the county] which is what they're worried about. [MF-F]

This tension is represented across all groups, and it is an important consideration in the development and uptake of future AES. We have seen, particularly in the East Farmers group, how giving the impression of being a group of 'rewilders' has a significant impact on individuals' opinions of the group, which can affect their decision to join. If farmers cannot be encouraged to change their practices individually for the benefit of the environment it is unlikely that they will join groups to collaborate for the benefit of the environment.

For other participants, it was their understanding of what was required of them that differed. Henry and Eliza, in the West Farmers group, were surprised that there was no clear expression of the CS options they would be required to choose to align their work with that of other group members across the group's area:

Henry: We were expecting the CSFF group to say so these are the things that we've signed up to, this is what we're trying to do in our wider area. So, if you could do these things in your CS scheme, that would really make a difference and that would join up with these other

members around here and it would start creating change at a landscape level, but there seems to be no other than to have events, there's no clear objective, there is no clear obligation either... We spent a lot of time going...

Eliza: What is the CSFF?

Henry: What is it? What does it actually do?!

Eliza: Yes, what does it do! I kept asking people so what does it do then, and they've looked at me and been like (she shrugs). [WF-M2]

Despite a CS agreement not being a requirement of CSFF membership, they felt the scheme was poorer for lacking specific obligations. The presence of a CSFF group is supposed to ensure selected options align across the landscape; however, Henry and Eliza did not feel that the process of establishing their agreement encouraged them to think about the complementarity of their and their neighbour's options.

The above examples demonstrate that the precise aims of the CSFF, and their practical implications, are still negotiated by group members, regardless of group age. Participants are engaged in an iterative process, which involves negotiating their individual beliefs and values, and those of the group, to understand how they can deliver environmental benefits which align with the group's goals.

4.5. Framing group goals

In the initial stage of group formation it is possible for the facilitator to frame the group's specific goals. Barbara described how she drew on her members' pre-existing experiences to develop a narrative of the group's overall aim:

Barbara: So, a key selling point is that it's basically what we all want, like human beings, which would be a roof over their head, ability to find food, ability to find a mate and to make sure stress is minimised.

Aimee: You try to frame it in a human way, do you think that helped people get on board with the idea?

Barbara: I think so, because it's pretty straightforward, people say, well we all need that, but my point would be that sometimes we don't get our own house in order, sometimes we don't see what's missing, it might be connection with people, sometimes stress, we might be feeling really stressed and on our own, and for a pollinator, that could be a pesticide removing a habitat or poisoning it. [MF-F]

In this example, we see how a facet of social capital – a shared narrative – can be employed in the exchange of intellectual capital (information on the group's aim) and influence the development of social capital through establishing a shared language which continues to form the basis of the group's discussions and actions, as Barbara went onto describe:

All members of staff and their farmers refer to this as the "[project name]" matter of factly now. [MF-F]

This has seen some group members, from the group's larger arable farmers to landowners with a conservation focus, taking action to deliver on the key aims of the project; however, this remains on an individual farm basis, as opposed to the wildlife corridor Barbara would like to see across the county.

The 2020 groups were still establishing their goals, and this quote from Fred explains the difficulty in doing so:

The objectives keep changing, I think the group struggles themselves you know I think everyone's waiting for the direction from central government about all these features now as there's a massive amount of uncertainty. [NF-M2]

We have seen how many farmers in the CSFF groups have looked to government policy to inform their practices over the decades. In this current period of significant change, where information on the structure of elements of ELMS remains scarce, membership of a CSFF group provides a space in which farmers and land managers can begin to negotiate the changes they may have to make to align their practices with the ELMS. Although Fred felt the group was struggling, Maria believed that now the group was able to meet

in-person more frequently, it would be easier for the group to develop collective goals and begin to work towards them. However, she was realistic about the time lost to Covid-19, and explained that their aim now was to bring everyone to the same level of understanding in time for the launch of ELMS:

> *Aimee: Do you think people will start to engage more once they've got to know what the group is about?*
>
> *Maria: I think so, we've got our priorities we're meant to be talking about as a group... my aim, by the end of the three years, is to have introduced these themes and hopefully get some acceptance of their importance going forwards in terms of the need for them, but also from a business sense point of view, why these are going to be increasingly important to their farm businesses, so to get everyone to the same place, the same level of understanding in time for ELMS so that we can hit the ground running with new schemes. [NF-F]*

Timing is a key issue here, as the Northern Farmers' funding will end in 2023. Maria is hopeful that the AONB will have the information they need to move forward with a collective application for ELMS funding, particularly as they have 'gathered the network and generated the interest through the CSFF'; however, the group will have to sustain itself, or reapply for CSFF funding, prior to the rollout of the elements of ELMS which support collective action in 2024.

Establishing collective objectives during their limited funded period was not the only barrier; for some groups, individual identities were also an issue, as we have seen in James' and Lewis' quotes in section 4.3. Covid-19 caused delays in all groups' activities, but the impacts were most keenly felt by the 2020 groups who were unable to meet their peers and develop a mutual understanding based on the mutual beliefs and norms associated with their identities. While Maria remained positive, Debbie saw this as a barrier to future collective action in the East Farmers group:

> *I think a big challenge is to get the working farms more engaged and to work out where we can fit environmental enhancement into their*

> *business really and get cooperation between the different kinds of landowners. [EF-F]*

Here, we see the impacts of bonding ties on the ability of a group to work together. Another significant influence on engagement comes down to the timing of events, an issue explored in detail in Chapter 5. Understanding how such goals fit with the desired farming approaches of group members is also essential.

Even where there were positive changes at an individual level in groups, participants were still unsure of their group's potential to work together:

> *Despite the fact you're meant to be doing things as a group. There's not really any group activity. – James [EF-M4]*

This was even the case in the Midlands Farmer group, which has been funded for six years:

> *Daniel: Farmers are a pretty independent group on the whole... I don't see there being major motives to collaborate at the moment.*
>
> *Aimee: So there needs to be better motivation to change behaviours?*
>
> *Daniel: Better motivation for collaboration for sure, I'd strongly say that, on a geographic basis, get people to club together to do area schemes, if there was a significant incentive to work together I think that would work pretty well. I'd be happy to work with my neighbours, I'd be keen to, I think that could work pretty well to try and get them to do that but at the moment I think most of them act independently most of the time... I think it would be great if we could get a collaborative scheme on the river catchment, I think they're the natural boundaries we should be working to collaborate in and if you can get everyone to value the river, not to tip their sewage in, not to put their rubbish in it and to try and clean it up, that would be great, a major plus. So, I would try and do catchment-based incentives to improve habitat and biodiversity. With the group I think an idea is raised and it goes round, it's quite democratic*

but I mean, I would probably say that most of the meetings are voicing ideas rather than maybe implementing actions, I haven't been asked to do a lot for the group, I don't think any of us have really. [MF-M4]

The Midlands Farmer group did have funding from Chloe's organisation for the type of 'area scheme' Daniel describes; however, this was limited to group members in a specific catchment. As Barbara described, those that did receive funding were able to make changes on the ground:

Because we had the contact with all these farmers, we were successful in getting a project funded by [Chloe's organisation], so we were able to recruit a water and wetlands officer for two and a bit years, and go out to 19 farms and do work on phosphate, some got wetlands created and general riparian corridor enhancement through connectivity, often riparian corridors are just left, so it's proven that we can now get pretty quick access to a wide range of farmers in terms of potential projects and things they may need to help them at an individual level. [MF-F]

Ben spoke highly of this grant, recognising that without it, he would have been unlikely to carry out the work as he would not have had the means to do so:

When we went into the CSFF we were supposed to have had a lot of help getting funding for various things, like that incident I was telling you about with the lapwings. There was nothing forthcoming and so that's really what the project did, it opened our eyes dramatically to what needed to be done but it didn't give us the tools to do it. The CSFF gave us the advice but not the tools, now you have to ask the question what are we supposed to do, and I know most people would say well unless you're going to pay me I'm not going to do it. I was a bit different, I did do a lot of it. I've enjoyed, I have had some quite nice funding of late from the wetland project, where we've been creating in-ditch wetlands which, if I'm honest the funding was more than adequate for those. I enjoyed it, I felt I was being paid handsomely for something that was really beneficial and I've done quite a lot of those and I'd like to see more of that really: 'yes we need this, let's get the funding to do it

> *properly'. There was always funding to put on refreshments and that kind of thing, which is very nice and very attractive but we need more for the work. [MF-M1]*

We again see the importance of funding for capital works, which is not currently delivered through the CSFF. Chloe sees the CSFF groups as the perfect delivery mechanism for ensuring her organisation's funding is allocated within the given timeframe:

> *The [project] is a Defra fund that was channelled through [Chloe's organisation] to look at the [European Directive] failures, which is part of my team's work is to deliver projects which improve any of those failures. So I spoke with Barbara about the fact it had come up and obviously the CSFF is the perfect pool of people all in the same area and therefore the same catchment that we can deliver, so through conversations she knows the type of projects that could be done and I know what we can do to reduce phosphates, for example, which is what the [project] was channelled towards in this case. So, it was working together to come up with some parameters, using members of the CSFF group, to put into the bid which was successful... we don't have long to turn it around but we don't know what our budget is until it gets announced, so we need to have people who are ready and willing to work with us to then turn it around. [MF-P]*

The Midlands Farmers' experience is a positive one, and the project saw some Midlands Farmers cooperating with one another to deliver results, for example, Ben helped excavate land for some of his peers. However, there is still progress to be made in funding the delivery of landscape-scale environmental improvements. We have also seen individual attitudes starting to change, with farmers and land managers more likely to work with one another should the right project arise. This must take complex factors, such as business needs and capacity into account, but having networks of people interested in carrying out work collectively is vital for organisations to turn applications around and secure the funds for capital works.

4.6. Conclusion

This chapter has demonstrated how the development of CSFF groups relies on the coevolution of social and intellectual capital. This begins with the networks and knowledge of the facilitator and builds with the ensuing contributions of group members. The facilitator is a key individual who drives the activity of the group, utilising their networks and skills to ensure the group provides an attractive space for potential members. Their relationships with a range of stakeholders are essential, both in developing the group and ensuring that the groups' experiences are represented in relationships characterised by linking capital.

Access to the facets of social capital discussed in Chapter 2 was a key determinant in individuals' decisions to join their CSFF group and engage in the negotiation of a shared understanding of the group's goals. The intentional formation of CSFF groups represents a purposeful investment in the development of social capital and allows group members access to intellectual capital which they may not have otherwise come across. It is important to remember that social capital can also give farmers and land managers reasons not to become involved in CSFF groups. The decision to get involved in a collaborative process is complex; however, a lack of trust and differing norms had a significant impact on people's decision to get involved in this research. Participants described how issues with collaborative working may be eased with more flexibility in the process, recognising that change and learning are complex processes which may not happen in a linear fashion.

Following the establishment of a group, there follows a period of negotiation, where group members reach a shared understanding of what it is the CSFF requires of them and the specific goals of their group. Although the groups had some success in aligning themselves to a collective goal, there is limited evidence of landscape-scale improvement, often because there has been little in the way of funding for the collaborative projects required for change at this scale.

This chapter has outlined the initial stages of group development, from the initial application through to ways in which farmers and land managers are encouraged to join the group and the generation of a shared understanding of the expectations of the scheme. We have seen how the groups had little opportunity to carry out improvements at the landscape scale, mainly for financial reasons. Thus, their main activity was the training event. These events were funded by the CSFF scheme and form the focus of the following chapter, which explores how events function as sites of social and intellectual capital development.

CHAPTER 5 – GROUP EVENTS

5.0. Introduction

Following the presentation of findings on the development of the groups and their goals in Chapter 4, this thesis now turns to the groups' main activity in pursuit of these goals: the training event. This chapter examines the CSFF group events as a site of social and intellectual capital development. It will explore how the relationships developed and knowledge exchanged at events may influence group members' decision-making, particularly relating to their engagement in collective action.

Delivering training is a requirement of the CSFF scheme, and this is usually completed in an event led by the facilitator or an individual who has expert knowledge on the topic of interest. Although the events are arranged specifically for knowledge transfer, this research found that their function is two-fold – to allow for knowledge exchange and to allow relationships to develop between group members. Both functions are explored in this chapter.

There are several factors that facilitators must consider when arranging an event, including choosing an event topic which will be attractive to as many of their group members as possible, advertising the event so that it appeals to group members, the location of the event, the event timings and communication with any external experts they would like to invite to the event.

The Covid-19 pandemic presented a significant challenge to all groups; from March to May 2020 it was not possible to run in-person meetings due to the national lockdown, and following this there were restrictions on meeting in some form or another for another year. This included a rule of six, where a maximum of six people were allowed to meet together at once, followed by a further national lockdown in November 2020 (just as many facilitators had hoped to hold evening events indoors) and a subsequent tiered system in December 2020. Another national lockdown was imposed from January 2021, from which England began its exit in April 2021. Some groups were able to take their events online during these uncertain times, but this was not possible

in others for several reasons. These reasons, and the implications of having events in-person and online will be considered throughout this chapter.

This chapter looks first at how facilitators arranged events, and the factors they needed to consider when doing so. It then turns to examine the differences between online and in-person events, before exploring the benefits these events delivered for group members, particularly regarding the development of social and intellectual capital. A consideration of the reasons participants did not yet feel comfortable sharing information at events follows, before the chapter closes by demonstrating the value of inviting an expert speaker to an event.

5.1. Event topic and advertising

Facilitators described how building demonstrable topics of value to farm businesses into each event was crucial in getting farmers along to an event, especially given how busy many group members are. In the Northern Farmers group, both Maria and Freya took their lead from another local facilitator, Anwen. This communication highlights the importance of developing supportive facilitator networks alongside the networks which form within CSFF groups. Anwen ensured each of the events she organised had a topic which would interest the farmers in the group, for example, a talk from the Wool Board as many group members had sheep enterprises. Although the draw of the event was to discuss current issues in the wool trade, it also served as an opportunity for Freya to give an update on the current situation with CS, as she describes:

> *For the [neighbouring] CSFF group, there was a really good turn out when someone from the Wool Board came to talk about why they don't get much money for their wool and how it all works on a worldwide basis and that got a really good turnout. I was at that one because I was doing a little talk as well. Apparently at one they had a vet come along and that was a really good turnout as well, so it depends on the subject the farmers are interested in. [NF-P]*

This, again, highlights how important it is that facilitators understand their group members business and personal needs. Delivering an event which will benefit both their businesses and promote discussion about AES will appeal to farmers who rely on selling their products; however, it is essential to find a balance as some landowner participants were frank about their intention not to attend events which did not interest them:

> *There was one I didn't go to because I didn't feel like it was particularly relevant to us – Rosie [NF-M6]*

> *We'd go to it unless it was something that was really not relevant to us. You know, if it's arable or something like that. – Henry [WF-M2]*

Messaging is important and the popularity of an event depends on how the facilitator advertises it. This also extends to the format in which an event is advertised. Facilitators used email as their main form of communication, except for those group members who did not have an email address, with whom they communicated by telephone. If one of their group members did not respond to several emails, they would often get in touch over the telephone or try to visit the member to discuss an upcoming event:

> *It's mostly email, in terms of sending out invites and meetings and information about meetings... I do chase some by phone a bit, if I get the opportunity, if I'm on the phone to them for other reasons I can talk to them about their membership and involvement and stuff, but mostly it's info by email – Debbie [EF-F]*

A telephone call did make group members more likely to attend the event; however, facilitators often found they did not have the time to ring around every member of their group to encourage them to come. Maria also noted that, despite her efforts to contact a few of her members, they remained distant and were yet to turn up to an event. She believed that this was down to their farming commitments; however, as we have seen in section 4.3 and will explore further in section 5.4, the differing identities in the Northern Farmers group may also have influenced these members' decisions not to attend the events.

Sophie commented that all facilitators would benefit from communication training, to ensure they were able to organise and advertise their events in a way which would interest all group members. This topic came up at the first Northern Farmers' event, with one local agent commenting on the different languages people used to describe events. We have seen how the term landscape is contested in section 4.4. The agent suggested that language should not be 'airy fairy' but focus on appealing to all types of landowners in the area, including the commercial farmers who were not in attendance that day. The following section will explore another reason which affected attendance at this event: the time at which it took place.

5.2. Event timing

Even where events were on a popular topic, there was no way of guaranteeing people's attendance. Many participants commented on how difficult it can be to find a time suitable for most group members, particularly given how busy farmers can be at certain times of the year:

> *Farmers are notoriously busy and maybe sometimes don't prioritise, particularly in the summer, it's different to nail a farmer down, as you saw me running around like a blue arsed fly. It's no different on all the other days, the other six days of the week are just the same, in the winter you've got other pressures and as much to do but maybe there's a time for doing more of this classroom stuff in the winter. – Jack [WF-M4]*

> *I don't feel like I'm in touch with them. I guess that's probably because of maternity leave and Covid, and me not having the time because I cover the whole of the south of the UK. So, it's not just West Quarry, if I was just at West Quarry, I'd be at everything but I'm not and I haven't got the time to go to these sorts of things which is a real shame. – Olivia [WF-M1]*

Oliver and James expressed their concerns that running events in the daytime would only give smallholders the opportunity to vocalise their opinions:

But the trouble is those sorts of people have got time to go to these meetings in the middle of the day and give views and be very influential and these people are running it. Basically, they are not, how shall I put it, to me they're not farmers, they’re not on the farmers side really... Working farmers don't really want to go for farm walk for two hours to look at flowers in the middle of the day on a summer's day when they could be earning money, but people who own land that are semi-retired are all there, it’s a jolly for them. – James [EF-M4]

If you’ve got to look after the farm then all the work stuff comes first, doesn’t it. The daytime one you might get more of the hobby farmers turning up, you might get more people turn up at an evening do, then the more serious farmers they, if they’re doing other things, they might have more time to go. – Oliver [NF-M3]

As Chapter 4 demonstrated, facilitators and group partners understand the requirements of their group members and they feel obliged to ensure that their members get the most out of their experience with the CSFF group. They were keen to allay concerns by providing events on varied topics at various locations, as Barbara says:

We’ve got core farms they like to go and visit, there’s core farms who are very innovative and proactive, we’ve done a fair number of meetings and gatherings, quite a lot in the field, often with a guest speaker, so most recently we’d have had an innovative arable farmer, so we’ve tried to keep, well because of Covid of course in the last year it’s been dribs and drabs really, I keep forgetting that’s interfered with things... but I would say they’ve got a pretty good sense and respect for how they do things differently, one of them is a Demeter biodynamic organic farm, at the other end we’ve got some large quite intensive arable farms who are very twitchy about the amount being asked from them, because food production is top of their agenda. We’ve got a range of farms, not too far apart, to take people who are interested to. [MF-F]

Freya recognised that there were alternative ways to engage with farmers and land managers who may feel underrepresented during an event, such as Oliver (recall his comment on the 'very vocal' incomers in section 4.3); this is where the informal time built into in-person events becomes essential:

> *There's always the more and less vocal ones and as long as you recognise who those people are you can maybe go up and speak to those less vocal ones afterwards or deal with them that way or come up with different strategies if we need to. [NF-P]*

In addition to her above comment, I witnessed Freya offer her time to Oliver following the Northern Farmers rushes event. A conversation over lunch allowed them to discuss Oliver's options for accessing Farming in Protected Landscapes funding (a project-based scheme available to farmers and land managers within an AONB or National Park).

For the 2020 groups, it proved difficult to arrange events which facilitators and partners knew would be easier to access for the members, particularly due to Covid-19 restrictions on the number of people who could meet indoors, as Maria describes:

> *The majority of members are serious hill livestock farmers who are struggling to attend events because they're just too busy farming, even if they see the relevance to them the events I've held so far have clashed with market day... I think this will change within the course of the three years we've got as I'll be able to do more pub-based, meal-based talks and events in the evenings. I always had a plan we'd have plenty of pub based, meal-based things and the one that we had it went down a storm, everyone stayed much later than predicted, had a good time and yeah there's definitely some farmers that have come along to those that wouldn't be as connected into the farming community otherwise. [NF-F]*

Freya was positive that people would engage again, but agreed with Maria that the event type would influence people's willingness to attend:

> *I don't think it'll be too much effort to get it back up to where it should be, but it's probably been a bit slower than you would hope, just because we haven't had chance to do those indoor meetings, getting farmers into a pub and feeding them always works well, there's always fewer that will come along to an outdoor thing, especially if the weather's good, farmers always have other priorities on a nice day, and who can blame them? [NF-P]*

Section 5.3.1 explores how online events go some way to alleviating the issues with event timings; however, the online space does not allow for the same social interaction that occurs at in-person events. This can present another barrier to negotiating shared understandings and sharing experiences. This chapter now turns to address the advantages and disadvantages of both online and in-person events.

5.3. Event medium

In the early months of this research, virtual communication technologies remained little-used by farming groups. However, this all changed with the onset of the Covid-19 pandemic, as lockdowns forced communication online. The five conversations I had with facilitators during the summer of 2020 (see section 3.2) demonstrated that virtual means of communication were used by their group members, but that it had had an impact on their levels of engagement. The main phase of my research sought to examine the impact of the event medium in more detail, to understand how it affected the development of social capital and the exchange of intellectual capital. The reasons for this are explained below, focusing first on issues relating to online modes of communication and then exploring engagement at in-person events.

5.3.1. Online events

Aside from being essential for Covid-19 mitigation, hosting events online was beneficial for two main reasons: accessibility and the opportunity to speak to experts who would have been unlikely to travel to an event.

Given the nature of farming, it was usually impossible for facilitators to find an event time which worked for all their group members. This issue is not unique to the CSFF, but it was something that each facilitator was aware of given their prior experience of working with farmers. A knowledge of the farming calendar allowed them to choose the best times for meetings and events, usually evenings and avoiding the busy months in their area, but this did not guarantee people's attendance in real time. Webinars allowed participants to take care of other tasks, while being logged in on their phone. Recordings of these events meant that group members could catch up at a time which was suitable for them. For some participants, the ability to access events from home and in their own time was particularly important as they had caring duties:

> *Esme: At the moment, we look after Michael's mum... every time we leave her...*
>
> *Michael: ...We have to pay for someone to look after her. [MF-M3]*

Although finding a time suitable for everyone was difficult, Michael and Esme's experience exposes another significant issue with in-person events, which other participants also discussed: their financial cost. Group members are not reimbursed for their time or expenses, thus attend events at their own cost. Whilst this often results in them gaining access to important information, which can in turn reduce financial costs on their land over time, the initial, upfront costs, were a barrier to attendance. This, in turn, represents an opportunity cost, as group members miss out information which can lead to a reduction in financial costs to their business. In taking events online, the financial cost for attending is, usually, reduced to nothing provided group members have access to the required technology; however, as this chapter will demonstrate, there are associated implications for the development of social and intellectual capital. Recordings also offer greater flexibility, allowing group members to access the webinar at a time which suits them:

> *A benefit of online, is that you could go to more talks because they were all recorded. You could kind of quite often, even if there's two talks on the same time and you're interested in both, you could watch one*

and then you could go watch the other one at a later date – Lewis [EF-M3]

Accessibility is, therefore, a key reason as to why facilitators are likely to continue to use online events on an occasional basis, particularly to address the divide in the types of landowners accessing events. Facilitators discussed a further benefit: in arranging events online, they were able to invite speakers whom they felt it would have been difficult to hear from had their events been in-person:

We had a speaker from [an] estate in Norfolk. We wouldn't have been able to get everyone over there, certainly not when we did the webinar, but you know, that might lead onto a visit at a later stage. That was very well attended, we did get 20, 25 people came to that webinar and found it interesting, and that was a range of different kinds of members, they were talking about stuff that was relevant – Debbie [EF-F]

This access to new parties for information was valued by their group members:

It's very interesting to get external experts that maybe wouldn't come here. You can listen to somebody from the other side of the country like we had one from the guy who runs a farm in Norfolk. Well, he wouldn't have come down here, but we had an hour and a half session with him on the webinar, it was great. – Ava [EF-M5]

Participants enjoyed the opportunity of attending webinars to hear from farmers and land managers in positions very different to their own, often in other areas of the country which they would not have accessed had it not been for the option to attend online:

Esme: Well, the thing about webinars is we've seen virtually stuff we would never, ever have seen physically.

Michael: Oh yeah, we went to a croft in Scotland, didn't we!

Esme: It was a farm down south of the country, one north of the country, all in one two-hour meeting. You think you would never do that, you couldn't do it, I mean. [MF-M3]

Despite the advantage of being able to hear from others in an online event, Esme did comment that there were certain types of event for which a webinar was unsuitable, such as dung beetle events, as it was not possible to practise the act of finding dung beetles, they were simply presented in photographs. This issue is covered further in section 5.3.2.

Although there are clear advantages with regards to accessibility, it would be misleading to suggest that moving online solved all issues, as for some individuals accessing online events is not possible. Oliver described how he did not have access to the technology to access online events and expressed his concern that he was not the only one in the area who had this issue as their superfast broadband had only just gone live at the time of interview. This reflects broader structural issues regarding access to broadband in rural areas. In the same study area, several participants referred to the EE mast which had recently been installed at the community centre, giving them access to broadband. Despite this improved access, Freya mentioned that they still had to visit some local farmers in-person to deliver information. Access to the internet was not a guarantee that group members would attend online events, as some were not familiar with the technology, nor did they have the required ancillary technologies, such as a microphone, to participate fully in online discussions.

Even where group members were able to access online events, the perceived quality of intellectual capital combination and exchange was not the same as the perceived quality of knowledge at in-person events. The benefits of in-person events for knowledge quality, often associated with the higher levels of social capital it is possible to develop through in-person interactions, are explored further in section 5.3.2; however, here, it is important to note the key drawbacks of virtual communication tools. As I observed in the East Farmers' webinar, many participants choose to keep their cameras off. This may be through personal preference, or out of necessity given poor broadband or lack

of access to a webcam. Debbie felt that in the group, people's willingness to have their cameras on was linked to their willingness to be open with their peers:

> *In the Q&A a few will put their cameras on, some people never will, some people never say anything and will never put anything in the chat. And that's fine, I think if they're there, that's fine, they will get information and they might phone you up afterwards, but they don't want to do it in front of the whole group, and people are different in how they're willing to expose themselves. [EF-F]*

This often meant that the focus was solely on the speaker, with little motivation for conversation amongst group members:

> *In a webinar you have a speaker who goes on auto babble for half an hour, an hour, it's not particularly personal – John [EF-M1]*

> *We did more online, we had more webinars, they were good, but what you miss out on is the chat and that's inevitable, I didn't get any of the gossip, the stuff you learn when you're making a cup of tea, chatting to people who are there, you don't get that online. - Daniel [MF-M4]*

Section 5.3.2. explores the informal chats that gave participants an opportunity to discuss topics of interest when in-person and assesses how they allowed group members to develop trust in their peers. Despite the establishment of a CSFF group giving members access to a wider network than that which they may have otherwise had access to, trust was seen to be lacking in groups that were forced into communicating online just three months into their funded period. George described the issues the Northern Farmers faced:

> *Communication was difficult, and there was a period where it fell apart... the opportunities are there for building quite a strong network, the potential is good, but the actual activity is not.*

He went on to say:

> *If facilitation is going to work, then trust has to exist and that's very difficult to get online, but quite easy to do from people having a cup of tea together. [NF-M4]*

The other 2020 group, East Farmers, came across a similar issue. Here, bonding ties were strengthened, with John and Ava both describing how they kept in close communication with those they already knew in the area, but they made few bridging connections during the pandemic, as Ava explains: 'it's not easy to get to know people on webinars'. It was only through an in-person event on her land that members of the group started to introduce themselves to other group members whom they had not met before. As Stephen described, having events online for the first 18 months of their group's existence only served to make meeting in person 'all the more pleasant'. However, when we consider that it took Barbara five years to get some of her members to talk comfortably with one another, only meeting some group members for the first time 18 months into the funded period is a significant loss of time and may hinder the potential for relationship development within the East Farmers group. This will be explored in more detail in section 5.4.

Although this issue is not unique to online events, online communication presents new challenges in building trusting relationships, and without these, participants were not as likely to engage with their peers beyond the event space. For example, visual cues and being able to put a face to a name were deemed vital when the East Farmers group met in-person for the first time. There is also little opportunity for informal conversation, in which it is possible to get a measure of another's beliefs, in online events. Time was set aside for questions at the end of the webinar I attended with the East Farmers group, but as John mentioned, these questions were mainly directed back at the speaker and did not include others in such a way that they could present their knowledge in support or against other group members. This lack of informal conversation, combined with a lack of visual cues, meant that not everyone felt comfortable sharing their knowledge with their peers when they met them face-to-face, as they had not yet been able to assess their character. This meant that during the group's first farm walk, members used a significant

proportion of the event to introduce themselves and to begin to develop their relationships.

A difficulty in establishing trust online or over the phone can be seen in Defra's and the RPA's approach to offering services. Most participants referred to the RPA's operations, and their frustration at how difficult it was to reach someone when they had a question. In most cases, no one was able to reach the same member of staff twice. With no continuity, there is little opportunity to develop a trusting relationship with someone, to the extent that you will act on the advice they give you over the phone or in an email. Even where participants had been in contact with the same individual, they still felt that discussing potential agreement infringements over the phone was unreasonable, as it was impossible for them to demonstrate their defence first-hand. Arthur described how he received a call from his inspector to notify him that he was to be fined for overclaiming on an area of woodland. He felt that had they been able to discuss the issue face-to-face, the inspector would have been able to demonstrate the issue on his land and Arthur would have had a better awareness of the consequences. If this had been the case, Arthur felt that they may have been able to reach a resolution. If online communication is to continue in the form of webinars, emails, or blog posts, it is essential to ensure there is some continuity in staff, perhaps at a regional level. This would allow people time to get to know their local officers at events, as John suggested, and build trusting relationships on- and offline.

These issues reflect a wider concern with Defra's commitment to moving to a digital service and this must be addressed as the move continues. Understanding how people currently access information, and the barriers which they face, is essential in providing a service which works for all. A concerted effort to reach those Defra consider 'overlooked' will be vital in ensuring these individuals are included in developments, particularly as Maria and Freya are aware of individuals who have not received communications regarding ELMS. The multiple benefits of delivering information in-person are explored further in the following section.

5.3.2. In-person events

The use of online tools to continue with events was a necessity throughout the pandemic and there are clear benefits. However, all participants discussed a desire to return to in-person events for two main reasons: continuing to develop social capital and seeing the results of land management practices on the ground for themselves. Participants perceived the most significant issue with a move online to be the erosion of social capital. For the 2020 groups, any attempt to begin developing social capital beyond the level at which the group began was a non-starter, as England entered lockdown just three months into their funded period. Barbara recognised that giving the Midlands Farmers group time to engage with one another was a core part of developing the relationships required for the group to meet collective goals. She thus ensured all her in-person meetings allowed time for this, and described that the group had reached a point at which they had 'fondly got to know and recognise each other and their interests'. Having had time to get to know one another before the pandemic the Midlands Farmers were more likely to keep in touch with one another throughout the restrictions; however, this remained mostly restricted to other members they knew closely, as opposed to the broader membership they would encounter at in-person events.

Declining social capital is not just an issue within CSFF groups, but something which is increasingly worrying across the farming sector. Ben described his concerns:

> *Farmer discussion groups, they're all disappearing. When a group of farmers used to go to the pub and sit down, they've started emailing and stuff like that now. There's a whole community being lost, we're becoming blasted robots. [MF-M1]*

This declining capital concerned several participants. It was also a topic I discussed with Arthur during the Northern Farmers' carbon event, as the following field note demonstrates:

> *[Arthur] touched on the social benefits. The area used to have 10s of farmers and you'd see people regularly because they were almost on*

your doorstep, but over time, people have moved away, retired or died. Though there's still a core of farmers, most will retire in the coming years and he worries what will happen next. The CSFF events offer that sociability again - meeting people regularly to discuss pertinent issues goes some way to replacing the over the fence conversations he would've once had with his neighbours as they all went about their farms. - from field notes, 14th September 2021. [NF, event]

In the above field note, we see how the CSFF groups represent an opportunity to address Ben's concerns regarding the disappearance of farmer discussion groups through once again providing spaces in which trusting relationships are developed and collective decisions on appropriate land management in a given geographical area reached, based on the collective knowledge of all group members.

The CSFF does not allow for the provision of one-to-one advice; however, many group members have still benefitted from tailored advice by hosting a group event on their land. Facilitators used this as an incentive to encourage group members to host an event and several participants were happy to do so, recognising the benefits should they invite the group:

I love events like this where people come on the farm, something like you know, saying you're right, it could be done better, I want to be involved with that..., I'm more than happy for people to come onto the land to say what looks good, or what could be better, if there's a better or easier way of doing things – Arthur [NF-M1]

I volunteered to do a farmland bird walk straightaway on this farm because that's what I'm interested in, and because I was happy to do it, we felt it was a good start – John [EF-M1]

Most participants made it clear that, although they appreciated the continued provision of events online and such a format had clear benefits, there was no replacement for getting out to another's farm:

Nothing replaces what we did yesterday. – Owen, referring to the Northern Farmers carbon event. [NF-M7]

I think doing farm visits or going to see what someone else is doing is always good. Whenever you go and visit someone else's land, you always learn something without fail, and it's good to get off farm and meet other people who are on a similar kind of journey. It keeps your motivation up in general and makes you feel less isolated in what you're doing. – Lewis [EF-M3]

The practical experience makes you feel that the people who are doing it actually know what they're doing, because they're getting their hands dirty... Hearing people talk, bringing in their own personal experiences and comments and thinking oh, this is a bit different from what I have done in the past but here's the common themes, it makes it much more credible. – Thomas [NF-M5]

Lewis touches on two significant benefits of in-person events: wellbeing and motivation. Evidence of the wellbeing benefits of group membership is provided in section 5.3.2.2.

Encouraging people to try new practices is a key goal of the CSFF, as it means that, should they enter a new CS agreement, they are likely to include options which align with the CS priorities for the area. There is evidence that farm visits have motivated some participants to change their practices:

Aimee: Have you changed any practices as a specific result of being a member of the group?

Jack: I have from what I've learnt, yeah. Grassland management and a few other things.

Aimee: How have others reacted, are they doing similar things or have you been one of the first?

Jack: I'm interested to see how people are doing it different, if it's got a crossover with what I'm doing I'll think about it and do it, so I'm pretty

> *much open minded about it. If I can see the results like the wildflower seed, if I can see the results of what my neighbour did last year, and I can see it this year and next year then that obviously is of more value than reading it in a book or seed catalogue, if I can see that it worked for him, or that seed did but that one didn't, and this one did and this one took three years et cetera. That hands on experience is interesting. [WF-M4]*

As Jack's quote demonstrates, in farming, seeing is believing; where group members saw demonstrable successes, they were more likely to consider trying a new practice on their farm as they could trust the information that they were being provided could deliver improvements, or they had seen that the benefits to engaging with an option outweighed the costs. This included, for example, clearing dew ponds and planting hedgerows. However, this mostly related to changes at an individual farm level, with some coordination of actions, but limited examples of group members cooperating to deliver a specific, landscape-level change. There were some caveats to individuals making changes on their farm, mainly relating to who exactly they saw implementing a new practice, as Henry and Eliza described in section 4.3. Participants were more inclined to act on changes farmers and land managers they trusted had made and more likely to work with individuals they had known for longer. This was so in Jack's case; early in his interview, he described working with his neighbours on a range of tasks including haymaking, silaging and checking stock.

In-person events were seen to provide opportunities for conversations which were not possible in online events. This is essential for two reasons. First, it allowed people to develop all-important trust in one another, as was evident at the first East Farmers' farm walk I attended. The second, an opportunity to speak with experts will be explored in section 5.5. Regardless of the group age, facilitators recognised how important building time for conversation into an event was and made sure to include opportunities for discussion before and after events:

I like people to have a chance to re-engage with one another before getting on with the crux of the meeting, that re-engagement is the wellbeing bit. – Barbara [MF-F]

Quite a lot of chat comes out when you go back to the hall and talk in smaller groups, and I don't think that should be underestimated. – Maria [NF-F]

Participants agreed that this time for discussion was important, and more likely to happen at in-person events.

An online meeting is terribly focused: 'Oh we're doing this'. Whereas sometimes it'll be the conversations on the side that turn out to be the most important bits – William [WF-M3]

If I go to an event, I'm quite likely to be there right at the end, having good conversations at the end and sometimes they might roll over time whereas Zoom doesn't tend to do that, it tends to finish on the point, and you don't tend to get the good conversations going – Darren [MF-M2]

At each event, I observed participants make use of this time to discuss the topic of the present event, topics relating to events they had recently attended, and issues relating to their land and stock. The following field note demonstrates the breadth of conversations which would take place in such a moment:

It started raining heavily, so we all sheltered under a tree as the worst of it passed, which gave everyone an opportunity to talk again, and small groups started to emerge as people found others they had not yet met, or continued conversations they had started on the walk. I spoke with an ecologist about issues with survey data over the last two years, though they were pleased people were being more welcoming again now and said things had picked up. Two members next to us were discussing their stocking rates and how they envisaged balancing production and the environment. They wondered whether it would be

> *possible to run out of environmental things to do on their farms, and what would happen then. – from field notes, 2nd August 2021. [EF, event]*

Stephen considered the webinar to be a more formal style of event, which ran to designated timings and had an agenda. As the field note from 2nd August demonstrates, in-person events, particularly when outdoors, are influenced by external factors, which can mean they don't always go exactly as planned. On this occasion, the farm walk was shortened by a few fields to ensure we were back at Ava's farm in good time for participants to finish any discussions before they left. Participants commented on how they felt the in-person event was more informal, and allowed for breakout sessions beyond the agenda, because it was possible to read one another's body language and approach people for a one-to-one conversation. This cannot be done online unless members were to arrange another meeting themselves, or the facilitator were to leave the webinar open for conversation after the event had taken place.

The social time at events proved to be important for my research, too. Maria, Debbie, and Emily gave me an opportunity to give a brief presentation on my work when I attended events with their groups. However, it was in conversation with individuals after the event where I was able to explain my requirements in more detail and provide answers to questions potential interview participants had (as explained in section 3.2). Meeting my participants in-person, prior to our interviews, allowed us to develop a level of rapport which was important during the interviews, particularly where these took place online.

Having attended both an online and in-person event with the East Farmers group, it was clear to see the difference in interactions. Just six people attended the webinar, which comprised a presentation by Debbie and a colleague, during which participants had their cameras off, followed by a short period for questions in which just two attendees spoke. The in-person event saw a turnout of over 25 people. Whilst the event focused on improving grasslands and establishing meadows, it also proved an important chance for group members to introduce themselves to one another given the disruption the group faced due to Covid-19. This happened throughout the farm walk,

which took place over four hours and included an introduction to the event at Ava's farm and a pause for refreshments at her neighbour's farm which allowed ample time for conversation. The heavy downpour described in the field notes from 2nd August provided an unanticipated opportunity for further conviviality, as people shared their thoughts on the weather and shared items of waterproof clothing with those who had been caught underprepared. Such moments were appreciated by group members, as it allowed them to learn more about their peers and demonstrated that they could be depended upon.

George shared similar thoughts and emphasised how online meetings had prevented the Northern Farmers group from developing the trust required for members to work together:

> *The Facilitation Fund is about network building and partnership leading to delivery of changed work on the ground through the influence of people collaborating. That ain't going to happen until we can get face-to-face. It's about trust and it's about creativity that comes from people talking to each other and collaborating. And we haven't got that. [NF-M4]*

This was the case for the two groups who received their funding in 2020; however, the older groups had more opportunities to meet their peers prior to lockdown in March 2020. Despite the West Farmers' issues with changes in facilitator, Jack demonstrates that in-person events do allow for the development of trust, providing individuals commit to attending regularly:

> *I think there's a fair level of trust between people where we know each other. When the same people turn up, you learn more about them. If you don't see someone for six months, you don't get as involved in what they're doing. [WF-M4]*

In his statement, Jack also demonstrates the importance of learning about and knowing one another in the development of trust, highlighting the coevolution of social and intellectual capital which may occur throughout the groups' development. The presence of the groups provides farmers and land managers with access to others for exchanging intellectual capital. As

demonstrated in Chapter 4, the initial exchange of intellectual capital, in which participants negotiate their understandings of the CSFF and frame their collective goals allowed for a group identity to develop and trusting relationships to form. Where this was the case, participants were more motivated to share their intellectual capital in conversations and could see the value for their land and business in doing so.

Where group members had started to develop trust and respect for one another's opinions, the events became a space for debate, as I saw at the East Farmers' meadows event and as John describes:

> *We were talking about putting Roundup on the ground and there was clearly a divide in that room as to whether that's acceptable or not. I personally think it's completely unacceptable given the fact we know more about it and the damage to the environment than we did ten years ago. Collectively there will always be agendas and differences of opinion. I think people are mature enough to understand the differences and not make a fuss about them, I think I detected that when you were there, I mean, there wasn't a row, people were saying it was wrong and some people were saying well we do it, and actually the person saying we do it is an absolute expert on that. [EF-M1]*

> *Conversation turned to how best to establish a meadow – harrowing vs. glyphosate. This got the attention of the whole room and there was some tension as some members preferred glyphosate, while others were concerned with the wider effects and the same with harrowing, with some questioning what is lost when we harrow? Two ecologists offered their differing views, and several members contributed their experiences with both methods. No consensus was reached, but it was a good opportunity to learn more about the options available for establishing a meadow depending on the condition of the land - from field notes, 2nd August 2021. [EF, event]*

Recall Rosie's comment in section 4.2 on the CSFF groups being spaces of learning, and how this required flexibility. Many farmers and land managers

may not have used the practices they are discussing in their events for decades and for some, they may be completely new. For change to happen, group members must be open to other ideas and willing to accept that their approach may not be the best going forward, as I saw at the East Farmers event. Despite Ben's comment that 'old farmers don't change quickly', Barbara had been pleased to see that in the Midlands Farmer group, members had been breaking off in small groups for discussion. She recognised that everyone would approach learning and sharing differently, and in the early days of the group had had to manage their participation. Now, rather than facilitating conversations, she finds herself more of a participant in discussions:

> *It's a bit like having a group of people studying together, there will be those who sit quiet the whole time and then will come out with a magic sentence at the end of it and that's it, there will be those that everyone might go, there we go, they're off on one, but they've got to know each other better and will manage the situation themselves now, so I'm going, OK, I'll lob things in. [MF-F]*

In-person events deliver several benefits which were considered lacking in online provision. Meeting their peers at an in-person event gave participants time to speak with new people and develop trusting relationships, which in turn gave participants the access to new information and the motivation to share their experiences. Facilitators found that one of the most effective ways to ensure these relationships developed was to provide refreshments at the events. The importance of establishing this space is explored in the following section.

5.3.2.1. Commensality at in-person events

Time for food was clearly important for participants: the lunches and dinners provided at events were frequently discussed during interviews, and all but one of the in-person events I attended included lunch or hot drinks and cake. The exception was largely down to the timing of the West Farmers' bat walk event, which started at 8pm, continued until late and fell on the evening of England's UEFA Euro 2020 semi-final match. Emily recognised that, due to

the event timing, attendance would be limited and thus encouraged a slightly earlier arrival so group members could catch up prior to the walk, which was guided by two group members.

Facilitators were initially concerned about providing food, wondering how they would justify spending money on sandwiches; however, numerous benefits emerged which support the provision of food at events. Where food was on offer at events, participants felt they were more likely to attend. This was particularly so when meetings were held in the daytime. Esme felt this allowed them, and other group members, to justify their attendance at an event, given they would pause for lunch anyway:

> *The food is a big draw, Barbara's very clever with that. I think what she thinks is you've got to have lunch, you've got to have it, so if I have you for an hour before, you have it and then an hour after lunch you're still able to do your farming day. [MF-M3]*

Here, again, we see the importance of facilitators' knowledge of their group members' priorities and requirements. When discussing events, each facilitator mentioned arranging them around either lunch or an evening meal, and we have seen in section 5.2 the effects that this can have on attendance in the Northern Farmers' group.

A meeting over food and drink has been central to many farmers' social interactions for decades; however, recently participants have noticed this start to decline:

> *Farmers would all go to the local markets, and they'd all be in the café having cups of tea and breakfast together, none of that happens anymore, not in the circles I move in, so I can't really say I maintain those social relationships - Ben [MF-M1]*

Although the buying and selling of stock may have been the focus of a trip to the livestock mart, it was over these conversations which people shared news and discussed their preparations for such occasions. The presence of food at CSFF events serves as an intentional action through which social interaction

is once again, encouraged and there is an opportunity for a new norm to be developed. This time, however, the focus is on the new knowledge gained from attending an event and the conversations over food allowed participants to share their understanding of the topic with others and to make sense of points which may not have initially been clear. Building time for conversation into these events demonstrated that the facilitators were not simply aiming to force information on people, but that they encouraged discussion and debate built on people's experiences. This was particularly evident in the discussion around glyphosate and harrowing at the East Farmers' meadows event.

Recall George's comment about meeting over tea (section 5.3.1). A meal does not only provide an opportunity to discuss topical information, but it also allows group members time to get to know their peers. As Jack suggests, this allows trusting relationships to develop and contributes to the development of stronger network ties, through which group members may access resources. As Arthur describes:

> *The events are very friendly and informal really, we have a meal and a chat, I know that the funding helped with that, but it benefits that they are good social occasions as well... I think it's important locally. [NF-M1]*

Although, again, this element of the event does not contribute directly to environmental change, the time to develop social ties is essential for two reasons. The first is to ensure farmers and land managers have an opportunity to meet others and begin to form a group identity, something which Ben demonstrated is becoming increasingly unlikely to happen. The second is to motivate group members to share their experiences and engage with one another in collaborative projects; conversing over a meal allowed participants to judge their peers and gauge their trustworthiness as partners in work.

Not only did extending events to allow for conversations beyond the specific topic of the event provide benefits for intra-group relationships, but it also gave people an opportunity to discuss their concerns. Strengthening bonding ties and establishing a shared understanding of the pressures within the group,

meant people felt comfortable sharing issues with others, providing wellbeing benefits as discussed in the following section.

5.3.2.2. Wellbeing benefits of in-person events

In-person events provided wellbeing benefits, as group members could discuss their concerns over current affairs with their peers. As Esme describes:

> *I can't overstress the importance of meeting up with other people in the same situation. If we had no local group to go to, I think we'd be a lot less positive. [MF-M3]*

Although the events principally served as a space in which group members could share new information, such as their experiences with applying for the ELMS Sustainable Farming Incentive pilot, they were also a space for sharing concerns. The latter purpose had become increasingly important to several participants, particularly regarding ELMS. Two events went off topic several times, as questions were raised about how the current topic would be relevant to changes made because of ELMS. In sharing their experiences so far, participants were able to develop a shared narrative through which it was possible for them to combine their current knowledge and discuss the developing scheme's potential impact on farm businesses. Such was the importance of this discussion to participants that it took Paul over ten-minutes to turn the conversation back to rushes at the Northern Farmers event. Facilitators are more than aware of their groups' concerns regarding ELMS and recognise that in this period of change, peer support in a safe space is vital. Barbara explained how creating this space was part of her aim for the Midlands Farmer group:

> *I've gone in, this is something I want out of those meetings, they're going in with something they want, and I've also tried to establish that what we're doing is sharing and caring for each other. [MF-F]*

Her work to do so was appreciated by her group members, and Grace recognised that during this period, group members had an obligation to support one another:

How can you expect anybody to be, you know, individually responsible for, for making, you know, better ecological choices and conservation choices and everything else? We definitely need to support each other. The future is a co-future, we desperately need to come back together. [MF-M5]

Owen describes farmer isolation as a barrier to group entry in section 4.3. It is important this barrier is overcome, because, as Ben describes, the CSFF can be a space in which farmers and land managers discuss their stresses and work with others to overcome them:

I think it's very important to have gatherings and get togethers, you start to talk about things like people's stress factors, it's a lonely life, farming out here and you're alone with your thoughts a lot of the time and you've got to be pretty strong stuff not to end up in the depressed state that a lot of people do, so I think it's very good from a mental perspective to spend three hours once every couple of months just talking about something generally like that and it takes you out of your own environment and share problems with other people and stuff like that, it's more than just the CSFF, it's the social aspect for the wellbeing of the community, it's important to me that is, yeah. [MF-M7]

The above quotes demonstrate that providing a space in which farmers and land managers can discuss their concerns, particularly in the face of declining alternative support networks such as marts is vital. As the Midlands Farmer group have reached the later stages of their funding, they have got to know one another and the pressures their peers are facing. Their willingness to exchange this information has allowed group members to identify with their peers and demonstrate that they can be relied upon when required. Barbara's management of the group in this regard means her members are aware that, where possible, they should be providing support for their peers. She

describes how she hopes to continue to build on the principles she has established with funding from the new round:

> *There's also a care element in there, they do kind of look out for each other, some of them have got quite difficult situations and the group is quite sensitive to that, that wellbeing side of things... The new round is biodiversity, climate and wellbeing, so we need to not just tick the box on wellbeing but continue to address wellbeing as a whole. [MF-F]*

The potential for events to provide wellbeing benefits is particularly significant in the latest round of CSFF funding. Again, this may not contribute directly to landscape-scale environmental improvements, but where farmers and land managers found a space to discuss their concerns and share stories, they realised they were not alone in their current worries, and that there was a network of support there for them should they need it. Where relationships were yet to be established, participants were not as willing to share intellectual capital of any kind at events, this is a key barrier and is thus discussed further in the following section.

5.4. Barriers to the combination and exchange of intellectual capital at events, and beyond.

Despite participants' positive comments regarding welcoming people onto their farms for events, this was not the case for all participants. James was unwilling to welcome people onto his farm for fear of being singled out for other members' perceived issues with his management:

> *She suggested that they could come and walk around the farm. Right? I said, yeah, like taking a group of farmers, right? No problem at all, but I will not take the CSFF group round our farm. Why not? Because they're not farmers. They don't come to see what I'm doing. They come to see what I'm doing wrong. Unfortunately, it's one of those businesses where you can't do everything right all the time and they will pick up on the one thing you were doing wrong, and you've let them in on your land. And I don't trust them to that effect. [EF-M4]*

Trust plays a significant role in group processes, and its absence in the East Farmers group was hindering relationship development between those who identified as full-time farmers and those who were landowners. Debbie understood James' concerns, noting that 'mistakes can be very visible on a farm', but emphasised the following:

> *The two members that are hosting are openly talking about their learning over the years and the mistakes that they've made and that's important to be willing to share the mistakes... to you know, trust that other members are going to say, well you've learned something from that and now we can learn from that. [EF-F]*

Given the East Farmers were only just beginning to have in-person events at the time of interview, Debbie hoped that trust would develop in due course, through the informal conversations over tea and refreshments. James did recognise that virtual events, in which he could not see his peers, had an impact on his perception of them:

> *Call me old fashioned but I can't judge someone by looking at a screen, I need to see what they're doing with their hands and face and everything. [EF-M4]*

Oliver had a similar experience in the Northern Farmers group. Although some members, like Arthur, were offering their land for events, Oliver felt similarly to James, noting that he would only discuss his business information with full-time farmers, not 'hobby farmers'. He felt that the type of person who attended the event had an impact on the discussion, and thus, the intellectual capital which was exchanged during these events:

> *If all the hobby farmers turn up to a meeting, you're not going to divulge any of your information to them, are you?... If you had more genuine farmers there, there would be a lot more open and frank discussions about things. [NF-M3]*

Despite James and Oliver's concerns, Henry and Eliza described how they felt it was important 'established' farmers were encouraged to hold events on their

farms, as other farmers and land managers in the local area were more likely to respect their work as they had known them for longer and held their knowledge of their land in higher regard than that of individuals who had just moved onto the land. Barbara ensured this was the case in the Midlands Farmer groups by using core farms which represented the group's varied interests to host regular meetings.

Although individual identities have an impact on the way people engage with an event, we have seen that where group members had time to get to know one another through the events, this was beginning to change. For example, as Jack states in the previous section, meeting in person allows people to develop trust in one another. Given the Northern Farmers group had only been established for 18 months and had had just one in-person meeting prior to my work with them, it is likely Oliver and the other farmers in the group will begin to feel they can have 'frank discussions' once they have had the time together that the West Farmers and Midlands Farmer groups have (between five and six years). However, the issue of what happens to groups post-funding remains significant for 2020 groups. At the time of interview there were no plans to grant extensions to the 2020 groups, which concerned facilitators as they were unsure whether they would be able to support their group during the period when their current CSFF funding ends (2023) and the new collaborative elements of ELMS begin (2024). Facilitators were worried that all the work to develop relationships in preparation for collective action will have been in vain if there is no way to support the maintenance of social capital in these networks, as the groups had not yet reached a stage where they could do this without the support of a facilitator or independently of an event:

> *I've seen it in the past and there's a danger it will happen now, there's so much uncertainty that some of the progress you've made with people will be lost. – Debbie [EF-F]*

> *If we don't get an extension, we finish in 2023. By the end of that, we may or may not have the detail we need for ELMS which will be coming the year after, we may be in a position where I have to call a halt to everything because we run out of funding and we don't get an extension*

and I just have to say to everyone, well, I'll keep in touch. – Maria [NF-F]

The issue of continuity and its impact on group motivation was covered in section 4.2. The loss of funding for facilitators, who were so crucial in organising events in the case study groups, was a significant concern at the time of interview. However, a further round of CSFF funding was announced on 7th November 2022. This round will fund groups for three years from 1st June 2023, and presents an opportunity for groups to gain additional funding to cover the period prior to the ELMS rollout, if they are able to demonstrate they can address different priorities to those which they are currently funded to address, and they are not already in receipt of a no-cost extension.

Despite the essential role they play in making the events happen, facilitators also came across a barrier to their involvement in the events themselves. Though Barbara felt that the RPA had made progress with the amount of administration required of facilitators (see section 4.2), other participants still expressed concern at the administrative requirements of each event. Facilitators felt that their group members and the RPA underestimated the time that the role required. They worried particularly about the impact event administration had on the time they could spend with their members addressing their questions and concerns:

The thing I hate most, when you go to a farm event as a facilitator, there's a lot of work gone into planning the event and arranging the speaker... you don't want people standing around and getting bored or hot or cold or whatever, you need to get on with the event. Then at the end, people want to go, so trying to get everybody to sign the attendance form, get members to verify it, it feels really uncomfortable at that point in the farm visit to be rushing around doing that, when what you should be doing is focusing on the members, having those conversations with them, I try to do that during the visit but you can't get around everyone. Instead of worrying about paperwork, you want engagement with the members really, and that's quite tricky. – Debbie [EF-F]

Debbie's experience shows there is still some way to go to finding a balance of administrative tasks and ensuring facilitators can develop relationships with their group members. This may be reached through better recognition of the time it takes facilitators to complete CSFF work. Despite Debbie's experience, the events do still provide benefits in that group members had an opportunity to spend time speaking to topic experts, as the following section demonstrates.

5.5. The presence of an expert at events

The CSFF does not allow for the provision of one-to-one advice. Facilitators felt that had they been able to provide this advice and claim for their time, they may have had better success in recruiting people into the group. To overcome this issue, facilitators used events to create an alternative provision of tailored advice, encouraging their group members to volunteer their land for an event as Emily describes:

> *If we can get a consultant onto their farm, do it as a group event, they get some specific advice based around what they're looking at on the farm and everyone gets to share in that. [WF-F]*

Experts were commonly recruited through facilitators' networks. In discussing their group's requirements with their colleagues, and other facilitators, it was possible for participating facilitators to assess the suitability of experts for their events and receive assurance of the experts' competence. The option to gain tailored advice from an expert endorsed by their facilitator was welcomed by most participants, who were keen to host events on their land. It should be noted, however, that some participants (such as James, see section 5.4) were still wary of hosting events, even when they were related to issues they were interested in, as they were not yet comfortable with welcoming other group members onto their land. As one-to-one advice cannot be provided to CSFF group members, time to discuss the potential application of knowledge gained at each event with fellow group members, group partners, the facilitator and event expert was appreciated and utilised by several participants whilst I

observed the events. These discussions involved smaller groups of people, discussing similar interests:

> *You can have a private conversation with someone else who's there who happened to ask the question you were interested in – Michael [MF-M3]*

These smaller conversations gave the party gaining knowledge an opportunity to assess the credibility of the person exchanging the knowledge. Northern Farmers group members who took part in an interview described the end of the event as the most important, as they considered this to be the time when they could ask their personal questions to the expert. These conversations represented a chance for farmers to discuss issues relating to their farming context, as I observed at the Northern Farmers' carbon event:

> *[Non] (the expert) was really good at offering her time to several different people as we walked between areas, which gave everyone the opportunity to ask questions if they wanted to – from field notes, 14th September 2021. [NF, event]*

We have seen that Oliver was wary of sharing too much during the events himself, so this informal time after the event was important to him:

> *The most I got out of it was when we were having food, I had a chat with [Non] at the end, you get a lot more out of it then – Oliver [NF-M3]*

In these moments, group members could approach the expert individually and present the issues they wanted to discuss. The chance to do this was vital for those group members who were not yet confident in sharing their experiences, or for those who did not want to share business information with the group. Experts inspired interest in their topics through their confidence, which was appreciated by participants. Their endorsement by group facilitators, who are all trusted individuals, further contributed to their credibility and participants' willingness to engage with the topics further.

At three of the events I attended, the experts involved took time to speak with as many attendees as possible at each stage of the event. At the Northern Farmers' events, this started in the car park, where everyone was asked to share their interest in the event before we moved into the fields to discuss the event topics: carbon storage and rush management. This preliminary information allowed Non and Paul to tailor their talks, and attendees were able to contribute further whilst out in the field, where each expert used participants' questions to guide the event. I spoke with Maria after the first event, and for her, it was *how* Non had imparted her knowledge which was key to the success of the event:

> *She's bringing an enormous amount of knowledge, but it's* how *to impart that knowledge, that's the key element. She used the word we a lot... it's vital people are in that sphere and understand the pressure farmers are under. [NF-F]*

We have seen that visiting other farms can have an impact on farmers and land managers' perceptions of changes in land management practices and can be a motivating factor in their decision-making processes. The same can be said for experts who were able to demonstrate that they had experience of similar issues to those the participants faced. This made it easier for participants to identify with the experts and increased the likelihood that they would engage with them during the event. As the following notes show, this is something experts attempted to do throughout the events they led:

> *Everyone asked lots of questions, particularly in relation to keeping stock e.g., treatments for flies etc... and Jill was candid regarding her experience and trials on her own land, describing several different approaches she had taken to alleviate the issue. She encouraged participants to speak to their vets and do the same if feasible. - from field notes, 10th July 2021. [WF, event]*

> *Sam explained how he got into rushes (through his consulting work and as a farmer) and that the things he would be talking about throughout the morning came about from over 100 events over the years, he has*

learned from every visit and knows no two farms are the same. - from field notes, 6th October 2021. [NF, event]

Participants found the experts' approach to the events reassuring and the content they delivered valuable:

She seemed very knowledgeable about what she was talking about, and it got a lot more interesting when she was talking about how you measure things and what the potential carbon trading values were and potentially might be in the future. – Oliver [NF-M3]

It's people like the lady this morning, who have a thorough background of knowledge of what they're talking about, that was brilliant today because her heart and soul were in it and she explained it so well, it was so simple to follow, so anybody who is an expert in their own field rather than just somebody who has an idea of something. – Arthur [NF-M1]

Although participants were positive about the experts involved with each of the events, there was limited evidence of group members making changes to their practices based on the experts' advice, nor were there specific commitments to collective action. However, the events provided a good starting point, particularly regarding discussions over which local issues may best be approached collectively. Oliver explained that in the evening following the carbon event he had logged onto Non's organisation's website to read more about the topic. As we have seen in section 4.5, to ensure CSFF groups move beyond sharing intellectual capital on their priorities, further funding is required.

5.6. Conclusion

This chapter has examined how the training events held by CSFF groups function as spaces in which social capital can be developed and intellectual capital can be exchanged. It has, again, demonstrated the vital role of the facilitator in this process. Their knowledge of their groups and their networks

are essential in ensuring an event is successful in attracting group members and offers them a valuable experience.

Although online events have clear merits, the benefits of in-person events cannot be understated and future iterations of environmental schemes which require actors to work together should continue to support in-person meetings. This is particularly so as, with the addition of a meal or refreshments, the events can go some way to replicating the conviviality once found at local marts and discussion groups, as described by Ben on page 146. Developing relationships is essential in ensuring farmers and land managers are prepared to deliver collaborative schemes. At present, CSFF groups are mainly witnessing changing attitudes and behaviours on the single-farm level. This is positive, but there are few examples of landscape-scale change occurring, such as the corridors Barbara hoped to establish across the county. Having said this, a balance of in-person and online events can be useful for groups, particularly where accessibility is concerned. Facilitators should have support to develop both types of events, particularly if a technology is unfamiliar to them. Landscape-scale change requires buy-in from all parties across a given landscape. At present, this is not the case in the CSFF groups that were part of this research; this issue will be analysed in Chapter 6.

The processes of social and intellectual capital development are most evident in the event space. In particular, experts can provide access to intellectual capital which is of great value to group members in a time of significant change. Regardless of the group's age, the events serve as an opportunity to have conversations with individuals with differing beliefs, negotiate shared understandings of pertinent issues, and develop relationships through which collective action may be achieved (with appropriate funding). As with engagement with the CSFF groups themselves, participants' decisions to attend events depended on several facets of social capital, and where this was lacking, they were unlikely to attend. Again, groups require the time to demonstrate the value of events to those who may not trust other attendees, nor consider the potential benefits their attendance might offer their businesses. Without a space to meet, it is unlikely the varied views of the

individuals who took part in this research would ever be brought into discussion, thus making it unlikely that people will change their farming practices. This is of significant concern in groups who have only had a short amount of time to hold events thanks to the multiple Covid-19 lockdowns.

Chapters 4 and 5 have presented the results of this research, starting with the initial development of the groups and moving to assess the benefits of group events. The next chapter presents a discussion of the findings presented in Chapters 4 and 5 in the context of the literature presented in Chapter 2.

CHAPTER 6 – DISCUSSION

6.0. Introduction

Chapters 4 and 5 presented the research findings, starting with an exploration of the development of the CSFF groups which participated in this research, followed by an examination of the activities at the groups' training events. The following chapter will analyse the research findings in relation to the literature set out in Chapter 2 to answer the following research questions:

1. How do Nahapiet and Ghoshal's dimensions of social capital manifest in CSFF groups?
2. How does social capital affect people's willingness to engage in the exchange and combination of intellectual capital in CSFF groups?
3. To what extent has social and intellectual capital development in CSFF groups facilitated collective action for the delivery of landscape-scale environmental outcomes?

It will do so by examining the research findings, which were the result of a total of 29 semi-structured interviews and participant observation at six group events, the details of which can be found in Chapter 3. First, the chapter will summarise the key themes which arose throughout analysis. These themes are important as, collectively, they encompass the key factors which may influence a group's ability to collectively deliver environmental improvements. The chapter will then cover the findings relating to each of the research questions in detail.

6.0.1. Key themes

Time and continuity arose as important themes in this research. Participants stressed the vital importance of having ample time to develop trusting relationships in which they were prepared to work together with their peers. The case study groups provide an insight into the ways in which a significant event – the Covid-19 pandemic – affected the development and maintenance

of social capital. This differed in groups which were newly funded in January 2020 and those which had several years to develop social capital and establish shared goals.

Facilitator continuity was considered essential during such a period of change. This does raise important questions over the extent to which funders expect groups to rely on the presence of a facilitator (Prager, 2022), or whether there is an expectation that members reach a point at which they can collaborate without the assistance of a facilitator. Understanding the length of time required to develop relationships will be essential in a move towards collective land management; appropriate timeframes are discussed further in this chapter. In addition to relationship development, appropriate allocation of time can also ensure that people begin to change longstanding behaviours, such as those 'indoctrinated' during an era of high production, as there is ample time for facilitators, group partners and other group members to demonstrate the value in changing their way of working.

Another key theme which arose was that of identity and how the narratives into which we story ourselves based on our identities can influence our ability to act collectively. This was particularly evident in the group dynamics of the East and Northern Farmer groups, where certain individuals considered themselves as representatives of other farmers who would not attend the group based on the predominant 'type' of member. Understanding the different identities of group members, and how best to approach group development so that bridging capital may successfully form, will ensure groups can effectively exchange knowledge and develop relationships in which working together may be possible.

Forms of knowledge and exchange were a key focus of research question two, and thus formed a dominant theme in the analysis. Although the CSFF represents an intentional investment in creating the conditions for the combination and exchange of knowledge, the cognitive and relational dimensions of social capital were found to present barriers to exchange in all groups, regardless of their stage of development. This research found that the mode of exchange influences the forms of knowledge which can be

transferred. Participants expressed a preference for tacit, experiential knowledge transfer over receiving objective knowledge.

Finally, the social and intellectual processes which influence individuals' capacity to act collectively formed a significant part of this work, in research question 3. Collective action requires certain conditions; again, although the presence of a CSFF group gives members the opportunity to create the ties required to act in this way, there were significant barriers regarding not only the cognitive and relational dimensions of social capital, but also the means of funding such action. These barriers are explored further in section 6.3.

This chapter now turns to analyse the findings in relation to each of the research questions, placing them in the context of the literature reviewed in Chapter 2 and explaining their contributions to each of the key themes identified in this research.

6.1. Social capital development in CSFF groups

This section will focus on research question one:

> *How do each of Nahapiet and Ghoshal's dimensions of social capital manifest in CSFF groups?*

It draws on the literature on social capital development and considers the interrelationships between the facets of social capital present in the CSFF groups. It will discuss the following topics: trust as a fundamental facet, the interrelationships between the structural and cognitive and cognitive and relational dimensions of social capital, issues around isolation and developing and maintaining social capital online, and time and continuity.

The section proceeds with the recognition that, whilst separated for the purpose of analysis, research should examine the interrelationships between dimensions and the facets within each dimension, as Nahapiet and Ghoshal (1998) suggest. Their dimensional framework is shown in Figure 1 (Chapter 2, page 21). As the quality of interaction can significantly affect the development

of social capital, the chapter will also consider the implications of the Covid-19 lockdowns and the effects of moving events online.

As explained in Chapter 2, Nahapiet and Ghoshal's (1998) framework was chosen to reflect the multidimensional nature of social capital to ensure its development and influence could be captured in its entirety. The case study approach also allowed for an exploration of the social relationships. This was achieved through ascertaining participants' perceptions of their social relations and by observing the quality of their relationships at group events. There was evidence of the facets of social capital influencing one another, it was clear that one facet underpinned the development of all others: trust.

6.1.1. Trust – the fundamental facet

In Nahapiet and Ghoshal's (1998) conceptualisation, trust is one of just two facets which has an influence on three elements of the combination and exchange of social capital; thus, it is to be expected that it played an important role in participants' relationships. The other, shared codes and language is explored further in section 6.2.1.

It is evident across the literature that trust is fundamental to functioning relationships, and that the facet can influence the development of others such as network ties and obligations (Nahapiet and Ghoshal, 1998; Levin and Cross, 2004; Riley et al*.,* 2018; Flavian et al*.,* 2019; Rust et al*.,* 2020; Mills et al*.,* 2021). This research reached the same conclusion as that reached across the social capital literature: trust is something which takes a significant length of time to build. The extent to which trusting relationships existed between group members depended on the age of their group and the opportunities that they had had to meet in-person. However, as scholars have proposed, participants did suggest that trusting relationships are more likely to lead to change. Recall George's comment (section 5.3.2., page 143) that because the Northern Farmers had only been able to meet online, there had been plenty of talk about opportunities to work together, but limited activity as a result as there had been little time to develop trust in-person. As Boisot (1995, cited in Nahapiet and Ghoshal, 1998: 255) suggests, this research found that the

presence of trusting relationships within the CSFF groups is particularly important during times of change, especially given the uncertainty which remains around certain elements of ELMS.

The following section will compare several examples from the research findings with evidence from the literature, to demonstrate how the facet of trust influenced other facets in specific contexts. Nahapiet and Ghoshal (1998: 261) suggest that, even though they do not address them specifically in their paper, the interrelationships between the dimensions and facets of social capital are of great interest. The following sections explore several key interrelationships which emerged from the analysis.

6.1.2. Network ties, network configuration and trust

The CSFF represents an intentional investment in developing and maintaining network ties for the purpose of environmental improvement at the landscape scale. The research found that this investment is particularly essential in areas that are seeing changes in land ownership. Recall Arthur's comments at the Northern Farmers event regarding the declining number of active farmers in the area. This change alters the relationship dynamics between those managing the land; an area which used to be characterised by close, reciprocal farming relationships is now required to negotiate new types of relationships, between individuals with different priorities for the land. The presence of a CSFF group gives farmers and land managers an opportunity to meet their neighbours in a way that reduces the initial burden on the individual. Although this is a positive development, the West Farmers' experience whilst they did not have a facilitator demonstrated that it does place a group at risk of becoming reliant on their facilitator to provide opportunities to maintain their networks. If a group is to be sustained, individuals must reach a point at which they take responsibility for maintaining these ties themselves. This is explored further in section 6.1.5.

Facilitators are a trusted individual through whom most participants first accessed the group. There is clear evidence from this research that facilitators' network ties are essential in developing a successful application, which may

otherwise have been out of reach. For example, Maria explained that the Northern Farmers group would not have come together without previous contacts and the support of her organisation's staff. As expected during the initial phases of group formation (Baird et al., 2016) many of those recruited belonged to pre-existing groups characterised by high levels of bonding capital and trusting, positive relationships, such as Arthur and Fred in the Northern Farmers group. Prager (2022: 9) recognises the importance of pre-existing social capital and argues that without it, there is 'no guarantee that viable groups will be formed'. Barbara directly supported this statement when she described how important her previous work with her organisation had been in allowing her to develop the network ties and trust required to establish the group.

The findings revealed that individuals are likely to be more willing to engage in a group in which some members are unknown to them if they have a trusted contact within the group. As explained above, this contact was often the facilitator; however, on occasion it was a neighbour with whom they had worked closely or knew well in a social capacity. In a case which demonstrates that *who* you know is as important as *what* you know, Lewis described how he would not have found out about the group without access to a specific set of network ties. The initial importance of the structural dimension of social capital is examined further in section 6.1.4. Once successful in an application, facilitators can use their influence in relationships to motivate their group members and ensure they are able to access and understand the group's intellectual capital (explored in more detail in section 6.2.1). This supports Nahapiet and Ghoshal's (1998) argument that frequent interactions in dense networks leads to improved cognitive and relational social capital.

Although the bonding capital described above was a positive in some groups, it presented issues in the East Farmers group, as others were discouraged from joining based on their pre-existing understanding of the types of people who were already group members. Recall that, for James, it was a lack of trust in his peers that prompted him to join the group, as he felt it necessary to ensure 'full-time farmers' had a say in the group's activity. Although they did

not directly choose to bar others from joining, as Portes (1998) suggests, the aspirations of one sub-group of members did not align with several others, thus some local farmers were wary of joining. This problem was not exclusive to the East Farmers group, as Oliver explained that he believed his neighbours would be unwilling to join based on the predominant identity within the Northern Farmers group. This finding supports Riley et al.'s (2018) assertion that pre-existing relationships present a barrier to collaborative working. This is an issue, as it prevents the sharing of ideas which becomes possible through the development of new network ties (Portes, 1998). Further, it was clear that the particularised trust that was present in the bonding ties between sub-groups had yet to become generalised trust that extends across networks in the group, as Svendsen (2006) advocates, despite the presence of a facilitator. Although the CSFF mechanism presents an opportunity to bring together actors from disparate disciplines, and thus support the creation of intellectual capital as Nahapiet and Ghoshal (1998) suggest, there were few examples in this research of CSFF group members utilising these weaker ties. The barriers this may present to the inclusion of new knowledge is explored further in section 6.2.2.

The CSFF mechanism, and the inclusion of similar approaches in ELMS, represents a positive development regarding the attention given to social capital by policymakers, when compared with Hall's (2008) concerns that its value was overlooked. The fundamental importance of social capital developed in CSFF groups has been demonstrated throughout this thesis, through frequent monitoring and evaluation of the CSFF (Jones et al., 2020; Breyer et al., 2020; Short et al., forthcoming) and in larger research projects such as the EU Horizon 2020 Agrilink project, from which Prager (2022) elicited the vital role of social capital in facilitating cooperation in CSFF groups. In addition to contributing to the conditions for collective action for natural capital improvements, group membership has been shown to elicit several social benefits. For example, the fourth round of CSFF review (Short et al., forthcoming) explicitly examined wellbeing and resilience outcomes, building on the third review conducted by Breyer et al. (2020) in which positive social

outcomes were found to be as significant as the potential environmental outcomes assessed in the earlier reviews.

The CSFF groups' experiences reiterate the importance of maintaining network ties for access to resources. The intentional investment in these ties represents a constructive step in recognising the importance of social capital in facilitating cooperation and collaboration. This chapter will now consider how these relationships may be developed further through strengthening the cognitive and relational dimensions of social capital.

6.1.3. Shared narratives, identities, norms and trust

Individual and collective identities were a significant theme in interviews. The following section will analyse participants' reactions to differing identities and their attempts to reconcile the differing norms associated with them. In so doing, it will demonstrate the interrelationship between cognitive and relational social capital.

Several participants referred to a 'produce, produce, produce mindset' (Owen, section 4.3., page 107), with Ben (section 4.3., pages 107-108) stating that "it's indoctrinated into [farmers] heads to produce". This mindset reflects a set of collective norms and obligations to the country which has seen farmers consistently aiming for the best yields in the wake of concerns over food security following the Second World War. As Riley et al. (2018) explain, the strength of participants' belief that this should continue to be a priority for farmers in England should be respected in policy if AES are to be sustainable. It is important to manage expectations and understand that long-held obligations may obstruct certain farmers and land managers from joining the group, as they do not see its aims aligning with their own and are thus unable to story themselves into the group's narrative (Lejano et al., 2012). Facilitators demonstrated an awareness that they were required to strike a balance when appealing to the identities of their group members. Debbie, facilitator of the East Farmers group, described how she hoped to create a common narrative which would encourage farmers and landowners alike into the group. It has been suggested in previous research that this is a positive approach to group

development; developing a shared narrative to which all members can relate is one way to overcome opposing identities (de Jong, 2010). This is particularly important, as this research found that if CSFF groups portray a goal which does not, in some way, align with the norms of farmers and land managers in the area, then the group's existence and motivation to work towards a collective goal is likely to be unsustainable.

Barbara demonstrated that developing a shared narrative was a successful approach to take. Barbara was able to refer to the project narrative that she had developed at each meeting and in conversations with her members to ensure that their group had a consistent focus. As discussed in section 4.5, Barbara's experience demonstrates the circularity of the social and intellectual capital development process. Her use of a shared narrative contributed to an understanding of the group's collective goals, and thus ensured that group members continued to situate their work in the context of the narrative and use a shared language to discuss their work. In developing a shared narrative, Barbara was able to allay her members concerns that her organisation was out 'to rewild [the county]'. In addition, she could ensure that landowning group members, and her organisation, did not decry the work of those who identified themselves as farming members. Far from just improving her group's combination capability, as Nahapiet and Ghoshal (1998) suggest is narrative's only influence, Barbara was able to develop a cohesive group with improved social capital. Members were open to sharing their experiences and changing their practices, as Lejano et al. (2012) suggest is possible when a narrative is shared. This demonstrates that through generating a shared understanding and system of meaning it is possible to create a space in which individuals are willing to develop new relationships and share their intellectual capital, including with people they may consider to have different identities to their own.

De Jong (2010) explores the interrelationships of social and intellectual capital. He suggests that social learning affects the quality of social connections in a network and vice versa. In this research, we see how Barbara's use of narrative supports the creation of a specific social structure in which future

learning will be determined by the mutual understanding her group now share. This understanding will drive individuals' behaviours and form the context in which relationships will be developed (de Jong, 2010). These findings can be used to develop Nahapiet and Ghoshal's (1998) suggestion that a feedback loop between social and intellectual capital exists in their framework. This development is examined in section 7.3 (pages 216-219).

Although access to a shared narrative represents an advantage for groups, the content of these narratives may inhibit, as well as facilitate, change (Nahapiet and Ghoshal, 1998; de Jong, 2010). In farming, research has shown that the good farmer narrative associated with production and tidiness encouraged individuals to follow a specific set of norms which were incompatible with the requirements of collective working for environmental improvement (Emery and Franks, 2012). Over time, however, the norms associated with good farming have started to change (Sutherland and Darnhofer, 2012; Westerink et al., 2021), yet this research found that some farmers still align themselves closely with the 'good farmer' described by Burton (2004). For example, James storied himself into a farmer identity built on what he believed to be his duty to produce food for the nation, against those who owned land in the area whom Lewis referred to as the 'wealthy recreational landowners'. Both James and Lewis considered these individuals to set the priorities for the group. This divide meant certain group members were unable to access the shared system of meaning that other group members and their facilitator are working to establish. This had a significant impact on levels of trust within the group; as James noted, one of his main reasons for joining the group was due to a lack of trust that the landowners around him would provide enough consideration for farmers' livelihoods. Although James and Lewis shared this opinion, John believed the CSFF group mechanism could allow farmers to continue to produce, whilst individuals such as himself took responsibility for conserving their land, such that the current 'mosaic' of land use could be retained. Given James' particular distrust of landowners like John, and his subsequent aversion to attending events, he was unaware of this proposal. Lewis found himself in a different situation; his focus on conservation on the farm led him to sit on the steering board for the

group. Despite this, he explained that he was concerned that the vision the group had developed would still be unattainable for certain farmers in the group's area. This situation represents how norms and identities can hinder, as well as encourage, the exchange of intellectual capital (explored further in section 6.2.1) which may improve the conditions for collective action.

It was clear that individuals' identities, and thus the norms and narratives into which they storied themselves had a significant impact on their willingness to engage. There is evidence in the Midlands Farmers group that a shared narrative can overcome issues associated with differing identities, as de Jong (2010) suggests. However, as the East Farmers' experience suggests, this can only be achieved when someone is willing to engage with the group. The following section will explore how individuals' perceptions of the group, based on their understanding of its aims and how these relate to their personal objectives, present issues regarding isolation.

6.1.4. Isolation

Section 4.3 demonstrated the issues with encouraging group membership. Although the issues participants described are driven largely by difficulties with developing the relational dimension of social capital, the crux of isolation can be found in the structural dimension of social capital. There are individuals who do not yet have any social connections to CSFF groups. Lewis demonstrated the importance of bridging ties in his awareness of the group, while Freya admitted that there were farmers in the Northern Farmers area that she had not yet met. Although previous reviews have demonstrated that CSFF groups offer a positive space in which social isolation can be addressed (Breyer et al.*,* 2020), this applies to individuals who are already members of the group. If individuals cannot, or refuse to, meet those in CSFF groups, they will be unable to enter the environment in which the cognitive and relational dimensions of social capital are developed.

Farmer willingness to engage in AES has been a topic of interest for decades (see, for example, Ingram et al.*,* 2013; Mills et al.*,* 2017) and has recently been brought to the fore of discussions as Defra have attempted to take a co-design

approach to ELMS (see, for example, Hurley et al., 2022). Although the CSFF does not require members to have an active, individual CS agreement, this literature is useful in understanding individuals' capacity to engage with a scheme which is part of the overall CS offering. Recent research (Hurley et al., 2020; Lyon et al., 2020; Hurley et al., 2022) highlights the difficulties of 'hard to reach' or 'overlooked' farmers. This research shows that individuals may choose not to engage for a variety of reasons, including social, financial and geographical factors. Older participants in this research suggested that geographical and social isolation may be exacerbated in the coming years as communities witness falling levels of bonding capital as a result of the death or retirement of older farmers. This may be compounded by many government services' move to digital, which will have a direct impact on those communities which have difficulty accessing the internet, such as the Northern Farmers (Hurley et al., 2020).

Isolation remains a significant issue within rural areas; however, with appropriate time and training, CSFF facilitators could provide those who are isolated with access to networks of support. Importantly, however, this approach to improving the social networks of the most isolated should not be used as a replacement for the provision of good services. The CSFF mechanism has the potential to provide benefits in areas prone to higher levels of social isolation. As this research has shown, where people were engaging with the group, they found it to be a social experience which helped with their feeling of isolation. This was also a key finding of Breyer et al. (2020) and Short et al. (forthcoming) in their reviews of the CSFF. In this research, participants found similar social benefits. Recall Esme's comfort in having a space to share her concerns and discover others' solidarity.

Some participants held a negative view towards their peers and suggested that their attendance at group events would be limited as they did not want to have other people speaking over them during conversation. Although this research did not seek to explicitly identify the reasons for which people did not attend events, this should be explored in more detail, to understand the full context of barriers to engagement. It is important to understand the barriers to

engagement at events, as if individuals are unwilling to access the potential new ties afforded to them by the presence of a CSFF group, then they will be unable to contribute to effective relationships characterised by reciprocity and positive emotions (Adler and Kwon, 2002). Several participants suggested that the CSFF could be an important mechanism through which caring relationships are developed; such relationships may be important in lieu of those developed in other settings, such as marts, in reducing feelings of stress. This aversion to developing new relationships presents a barrier to the combination of intellectual capital, an issue explored in section 6.2.1.

These findings demonstrate the costs of social capital, particularly where it comes to an openness to new information and subsequent access to opportunities such as the CSFF in this case (Nahapiet and Ghoshal, 1998). James suggested that growing up, he had only had access to the information his father deemed correct; going to college, where he met others from farms across the UK, allowed him to access new information. James' experience provides another insight into the interrelationship between the dimensions of social capital, and the importance of developing all dimensions. Although his previous experience suggests that he values access to bridging (structural) ties through which he could learn more about wider issues than those related to his family's farm, a lack of trust (relational) and understanding (cognitive) meant that, as described in section 6.2.1, he chose not to access this. It is through bridging ties that we are most likely to see environmental change (Mills et al*.,* 2012). Thus, the acknowledgement that these ties are developing across groups is encouraging; however, the relational and cognitive dimensions of social capital must be developed alongside these structural ties to ensure that they are used to their full potential.

Maria's use of 'legacy contacts' allowed her to submit a CSFF application. However, the use of previous ties may exacerbate the presence of what Hurley et al. (2022) describe as the 'usual suspects'. Understanding how to engage with 'overlooked' farmers, as highlighted by Hurley et al.*'s* (2022) work, is essential if cooperation and collaboration are to take place at the landscape scale. Currently, there is no evidence that farmers and land managers who are

not members of CSFF groups are even willing to coordinate at this scale, especially as they are unwilling to become a member of the group. There were several examples of this in this research. For example, Daniel explained that there were two farms between him and the next group member, with whom he was not currently working, nor did he see the situation changing based on their different environmental beliefs. John demonstrated a similar issue when discussing his neighbours' requirement to have 'grass growing green' for their cows. It will not be possible to develop collective goals, built on shared norms and narratives, if farmers and land managers develop in-groups and out-groups, each of whom are as dubious of one another, and content with continuing with their business as usual rather than reaching a compromise on what is best for farming and environmental management in their local area.

With engagement and wellbeing such a concern in the sector, the CSFF is a positive development. These research findings support those of Short et al. (forthcoming) that CSFF groups function as a space in which those who may usually be isolated can make new connections and share their concerns with their peers. However, further work is required to ensure that those engaging with a group are not the 'usual suspects' and facilitators should be supported to arrange events through which those who are considered more isolated can access networks of support. These events should, where possible, be held in person, as the following section will attest.

6.1.5. Difficulty developing and maintaining social capital online

This research project did not initially plan to consider the impact of digital tools on the development of social capital. However, it was clear that the Covid-19 pandemic would have a significant impact on our ways of working and communicating, and thus our relationships. As discussed in section 3.2., conversations with five facilitators in July and August 2020 led me to reconsider my research to ensure it captured the impacts of this move to an online way of working in groups which had adopted such an approach.

Section 2.2.2.1 demonstrated the importance of actors making continued efforts to maintain their social networks. The restrictions necessary throughout

the pandemic meant that it was not possible to access the usual routes of maintaining social capital, such as in-person meetings and events. The stark impacts of not having any events to maintain networks were visible in the drop in motivation in the West Farmers group during the pandemic; group events were not carried out as they did not have a facilitator, nor were any individual members willing to arrange events themselves. The restrictions on in-person events also meant that the Northern and East Farmer groups, whose funding began in January 2020, were unable to meet in person until 2021.The research shows that this had a significant impact on their ability to develop trust in their peers, nor were they able to develop shared goals during this time. As suggested by Chayko (2008), people accessed support through bonding ties and participants discussed that they had invited others whom they knew well to join their group during the pandemic lockdowns. However, it was not until in-person meetings began to occur that members could develop bridging capital, nor were they able to successfully generate a shared goal. George captures the issues with this succinctly in the following:

> *The Facilitation Fund is about network building and partnership ... That ain't going to happen until we can get face to face. It's about trust and it's about creativity that comes from people talking to each other and collaborating.*

An inability to meet in person had a significant impact on the 2020 groups' capacity to develop the cognitive and relational dimensions of social capital that are so important in ensuring the regular communication between members required to begin developing collective goals. The Midlands Farmer group had developed 'a strong sense of community' (Barbara) based on trust and respect for one another during their in-person events prior to the pandemic; however, participants described how during the pandemic they tended to communicate virtually with those to whom they were close, as opposed to those with whom they shared bridging and linking ties. Participants from both the Northern and East Farmer groups explained that they had found that they were unable to be as effective as they had hoped in the first 18 months of their funding. Their experience resonates with Morrison-Smith and

Ruiz's (2020) assertion that, when operating online, group effectiveness relies on trust. As several participants noted, trust is difficult to establish online, particularly as it is difficult to read body language in online interactions and participants were attending events with such different expectations of what the CSFF would achieve. Issues with trust were exacerbated in the East Farmers group as there had not been a chance to establish a group identity. The subsequent misunderstandings led to James' concerns over his peers' plans for the group. The West Farmers witnessed a drop in motivation as a result of poor relational social capital which meant that they did not have any direction in establishing new norms of communication when their facilitator went on maternity leave and lockdown was imposed. Henry and Eliza's experience in developing their CS agreement aligns with Morrison-Smith and Ruiz's finding that without frequent interactions, coordination within a group is affected. West Farmer group members were also unwilling to cooperate to develop group wide events, with individual members retreating into groups characterised by bonding ties. Although the Midlands Farmers held fewer events online and people retreated to close social connections, Barbara continued to seek ways to ensure the group could deliver on their environmental goals. In addition, the group were able to use virtual meetings to agree that further CSFF funding should be sought. The group's successful application is testament to the trust and supportive environment that they had developed for one another in their in-person events. This allowed members to be frank with one another when discussing the group's future in a virtual setting.

Defra has signalled a commitment to moving to digital services (Hurley et al., 2020). Given the issues with digital communications raised here, it is important that this move is carefully considered to ensure farmers and land managers have ample opportunities to develop trust in government officials. Arthur's experience of handling an RPA fine over the phone speaks to the issues which may arise should this not happen. In a sector which is already characterised by low trust between farmers and land managers and government, it is vital this is not affected further.

6.1.6. Time and continuity

The final topic of this section is an essential condition for the development of social capital. There is evidence throughout the empirical chapters that time and continuity are recognised as essential by facilitators, group members and group partners alike. This is to be expected, as Nahapiet and Ghoshal (1998) highlight the importance of providing stability through continuity. This continuity is essential in ensuring trusting relationships can be developed. Ben put it succinctly when discussing the changes in the sector, stating that 'farmers don't change quickly' and demonstrating that the conditions in which individuals come to trust one another take time to emerge. However, once present, these relationships can be used to draw together groups quickly, as was the case with the Northern Farmers. Group members are also more likely to reach out to one another through their own network ties, without necessarily going through their facilitator, such as through the Midlands Farmers' WhatsApp group.

Barbara's time with the Midlands Farmer group represents a successful approach to maintaining continuity. It was clear that Barbara had developed dialogue with her group in which she did not push the agenda of her organisation, but instead respected how this could be mutually influenced by the knowledge and practices of her group members. This is contrary to Rust et al.'s (2020) findings that gatekeepers may control the information received by a group. In addition, Barbara was aware that she should not try to 'become an icon', despite having 'attachments' and 'relationships' with her group members, many of whom she had known for over a decade. As Levin and Cross (2004) observed, the development of emotional bonds between Barbara and her group members created an environment in which all parties felt able to be open about their lack of knowledge. Although participants made it clear that Barbara was always willing to take new knowledge on board herself, to the extent that what she had learnt influenced her organisation's approach to farming and land management in the area, the introduction of a new facilitator for the group brings another opportunity for new knowledge to be integrated into all they have learnt with Barbara. Introducing Jim as a new facilitator as

Barbara enters semi-retirement will give him time to learn more about the shared narratives the group have established and to build trust with group members to ensure they respond well to his taking on the role.

Emily spoke at length about the issues which arise when there is no continuity. Emily was the West Farmers' third facilitator, although her time on maternity leave saw the group work with another facilitator who then had to leave the post to cover at their family farm. This meant the group could only access advice through emailing Emily's organisation, and during her maternity leave, group events were paused, which, as we have seen, meant there was a significant impact on group members' capacity to develop social capital beyond the relationships that they already had. We again see the problem with a reliance on their facilitator; the group stalled as no one was willing to take the lead on events, nor were there any projects on which members were already collaborating.

There are, of course, questions over how facilitators could be funded for longer periods. Prager (2022) argues that, ideally, groups should reach a point at which they do not rely on their facilitator and are able to manage group activities themselves. However, each of the groups in this research were not yet at a stage where this was the case, even the Midlands Farmers, who had received funding for six years. This research also found that partner organisations relied heavily on facilitators too – recall Chloe's comment: 'All of this goes through Barbara; I don't speak with the landowners'. There is a requirement to connect farmers and landowners with the sources of funding/partner organisations, such as in the Northern Farmers region, where Freya is a well-known face. Presently, it is essential that groups reach a point at which they are self-sustaining, or they must seek further funding. It is well-documented that social capital must be sustained by individuals accessing their networks regularly and maintaining ties. There is evidence to suggest that without reaching a point of self-sustainment, and without a facilitator, this will not happen, and the time and money that has been put into creating and sustaining ties up until the point a group stops receiving funding is at risk of being lost. Consequently, the role of the facilitator should be considered

essential in projects which require farmers and land managers to work together. England would not be alone in funding facilitators, or project managers, to assist groups in such projects; for example, Wales has funded project managers for collaborative projects through the Sustainable Management Scheme (Morse, 2021).

The case study groups' experiences demonstrate that continuity is vital. Without it, members are likely to lose motivation and the potential to develop social capital is lower. Further work should assess how this continuity might best be supported, particularly regarding continued funding for a facilitator.

6.1.7. Concluding remarks

The above analysis shows that, as Nahapiet and Ghoshal (1998: 243) suggest, the facets of social capital are highly interrelated. Developing trusting relationships relies upon investment into the maintenance and configuration of a network, while a shared narrative can help to overcome relational constraints such as those associated with identities and norms.

Despite the positive developments in the groups, there remain issues within the relational dimension of social capital which have affected individuals' engagement with their group. This research has demonstrated that the requirement to hold meetings online for much of 2020 and several months of 2021 exacerbated difficulties with developing this dimension of social capital. In addition, the structure of the online meetings that groups were able to hold often limited the development of cognitive social capital, as the focus was on one speaker, rather than holding a discussion to deliberate shared understandings of common goals.

The experience of the Midlands Farmer group suggests that these issues may be overcome if sufficient resource is allocated to the development of network ties and trusting relationships in-person. Facilitator continuity is a vital element of developing successful, cohesive groups; however, this does raise questions over how best to fund such a role in future schemes.

Having explored the development of social capital in the groups, and how the facets presented themselves, this chapter will now explore how the social capital developed in the case study groups influenced the combination and exchange of intellectual capital.

6.2. The combination and exchange of intellectual capital

Nahapiet and Ghoshal (1998) state that each of the facets of social capital explored in their framework contribute to the creation of the conditions required for the combination and exchange of capital. Learning is an inherently social process (de Jong, 2010; Urquhart et al., 2019). As Nahapiet and Ghoshal describe, it is through the development and interrelationships of the facets of social capital described in section 6.1. that the conditions for the combination and exchange of intellectual capital are created, or in some cases, inhibited. This section will analyse whether these conditions were developed in the case study groups, and if so, how participants became willing to engage in these processes. Its focus is research question 2:

> *How does social capital affect people's willingness to engage in the exchange and combination of intellectual capital in CSFF groups?*

6.2.1. Creating the conditions for exchange

As anticipated from the level of influence indicated by Nahapiet and Ghoshal (1998) in their framework, the relational dimension of social capital had the greatest impact on whether the groups were prepared to share intellectual capital with one another. This was compounded by issues relating to an individual, influential facet in the cognitive dimension which inhibited members' capacity to share their knowledge: shared language. Kosonen (2008) draws a distinction between the dimensions of social capital and their impact on knowledge exchange. She suggests that the structural and relational dimensions improve the quantity of knowledge sharing and the cognitive improves the quality. With Kosonen's distinction in mind, this section will explore how each of the dimensions contributed to the conditions for exchange in the case study groups.

The application process for the CSFF ensures that the structural dimension of social capital in groups is relatively robust prior to their first meetings, as group members must sign up prior to the submission of the application. In addition, facilitators must demonstrate in their application that they possess a network of bridging ties which they can access to provide expert knowledge at group events. This ensures that CSFF group members have access to parties with whom they can exchange intellectual capital, as suggested by Nahapiet and Ghoshal (1998) in their framework. The structural dimension of social capital is easiest to capture prior to group formation; however, given each member's individual behaviours and background, the ease with which the cognitive and relational dimensions may be developed remains relatively unknown until the group begins to meet in-person.

The cognitive dimension of social capital presented some difficulty in creating the conditions for exchange, namely relating to issues around the terminology used in the scheme. Shared language is a significant facet, as it has an impact on three of the four conditions. This was notable in participants' discussion of key terms relating to the CSFF and their groups' goals. Several participants felt that the differences in understanding could be alleviated by changing, or clarifying, the terminology used in the CSFF and future schemes, notably, the word 'landscape'. Thomas and Daniel expressed their concerns over potential interpretations of this contested word and how this would influence group members' willingness to act for their 'landscape'. The 2010 Lawton report, from which a collective approach to tackling environmental issues developed, provided a loose definition of the term, leaving it open to interpretation. This research suggests that providing a concise definition of the geographical area in which a group should work may alleviate the issue around the term 'landscape' and instead give CSFF group members a clearer idea of the scale and aims of their group.

This was evident in the Northern Farmers' group. By developing the group with contacts who had worked on previous projects, all in the same valley, Maria and Freya were able to bring together individuals who felt strongly about the farming and local identity of their valley, supported by local agents and

landowners who understood the importance of this identity. For Freya, this 'valley-based approach is really good, because they [the group members] can all see how they fit into that landscape'. This experience provides an important insight into the potential benefits of ensuring a concise geographical area is adopted. As group members begin to associate themselves with the identity of the valley, the process of identity negotiation may prompt acceptance of new norms and encourage group members to engage more readily in collective activities (Nahapiet and Ghoshal, 1998; Wynne-Jones, 2017).

The changing definition of what it means to 'improve' land also had an impact on people's willingness to engage with group events and discussions. The tensions within the concept of improvement demonstrates the interrelationship between the cognitive and relational dimensions of social capital. This was particularly so in the East Farmers group, where certain participants' understanding of what it means to improve land was strongly driven by farming norms and identities. This did not align with newer landowners' expectations of improvement, which were driven by their desire to improve specific habitats in line with the CS priorities for their area. Unfortunately, these differences meant James was unwilling to associate with others in the group, a known issue that Groth (2015) describes in her work on rural identities. Throughout this research, participants referred to the importance of language in ensuring group members considered events to be valuable. For example, Anwen informed Maria that advertising an event which related to farm business encouraged greater engagement with the event, because potential attendees could see that they were likely to get something beneficial from attending (in this case, further information on how to get a better price for their wool). A land agent at the Northern Farmers' carbon event I attended agreed, using a moment of discussion to raise the importance of phraseology in ensuring members who were not in attendance would be interested in the next event. As Nahapiet and Ghoshal (1998) state, language can help us to understand the likely benefits of exchange and combination. This is particularly important, as participants expressed that they would be unlikely to attend an event which did not interest them, nor events which would not be of specific use for their businesses or land. These experiences demonstrate the importance of

facilitators knowing their group and reiterate the power of narrative in motivating group members to work together.

Despite its clear importance to the quantity (Kosonen, 2008) of knowledge exchanged, and its role in facilitating the development of other facets of social capital, as shown in section 6.1, the relational dimension of social capital was also considered to be the most difficult to develop. Issues with differing identities, and thus norms and expectations, meant that Oliver felt his neighbours would not engage with Northern Farmers' events, thus meaning that they miss out on the information supplied. Freya's suggestion to answer this concern was to make better use of existing networks, in which relational social capital is well-developed, to make the CSFF process more transparent. We have seen that this allowed the Northern Farmers group initial success, and it may be that through using local marts that they can extend their membership base. Their experience suggests that we do not need to reinvent the networks which already exist, but ideas must be introduced slowly, by trusted individuals. This format may represent one way in which a reliance on facilitators can be eased – through encouraging engagement and discussion at marts and suggesting events which farmers and land managers may want to develop, with facilitator support, as opposed to events developed solely by a facilitator.

It was clear from participant interviews and observations that intellectual capital exchange was most likely to occur in relationships characterised by high levels of trust, as Nahapiet and Ghoshal (1998) propose. Where these trusting relationships existed, participants were more likely to follow up an issue outside of the event. For example, Darren visited other farms to learn more about their meadows. Here, too, there was a sense that the exchange would be reciprocated, and Darren was keen to allow others onto his farm to demonstrate what he was doing with his land. Such relationships had not developed across all case study groups. Although there was talk of seed sharing at the East Farmers group event, only a small group of members who were already well-known to one another decided to go ahead with this activity. Group events were the best place for developing relationships characterised

by high levels of relational social capital. As de Jong (2010) notes, these opportunities for interaction should take place regularly, to provide the conditions in which learning may best occur. This is particularly true for the development of trusting relationships, as Jack suggested it allowed him to 'learn more about' the people who attended events regularly. Where this did not happen, often as a result of the Covid-19 lockdowns, participants found it difficult to create the conditions for developing social capital, which in turn affected the conditions for the combination and exchange of intellectual capital.

CSFF groups are making some progress in developing the conditions for combining and exchanging intellectual capital; however, this is often constrained within the groups and can be hindered by a lack of social capital. Despite this, the presence of a group does offer members the opportunity to access new ties, which is a positive development, and with time, should see groups of farmers and land managers beginning to exchange knowledge. The following section will consider the network structure in more detail, to explore how bonding, bridging and linking ties affected the transfer of knowledge within the groups.

6.2.2. The influence of network configuration on intellectual capital exchange

Baird et al. (2016) state that it is important that we understand the pathways through which farmers and land managers access new information, to ensure that new policy offers appropriate support mechanisms for the transfer of information. This research has examined the conditions required for intellectual capital exchange, and it will now look in more detail at the structures through which this exchange occurred.

There was evidence that knowledge was exchanged most often between bonding ties, particularly in groups which first received funding in 2020. As explained in section 6.2.1., this was largely due to issues in the relational dimension of social capital which meant that group members were not yet comfortable exchanging knowledge across bridging ties. Baird et al. (2016)

state that bonding ties influence the success and sustainability of agricultural practices; however, familial relationships can also be the source of significant difference. As James explained, his knowledge prior to leaving his farm for college was heavily influenced by his father and his beliefs. Although bonding ties allow for the transfer of codified knowledge, there is a concern here that such knowledge may become redundant in a time of significant change. From my observations at the East Farmers' group event, it was clear that groups characterised by bonding ties were potentially self-reinforcing in redundant knowledge regarding the management of meadows. Their discussion on meadow management demonstrates that the opportunity to discuss topics with people in relationships characterised by bridging ties is essential in ensuring knowledge does not become redundant and that it is successfully used to a group's advantage. Issues with bonding ties were not limited to group members; recall Barbara's concern over the intra-organisation relationships in her region, and the impact that they might have on the transfer of knowledge between facilitators. Participants in this research recognised this was an issue; however, as previously discussed, the circumstances in 2020 in which three of the four groups found themselves were not conducive to developing the cognitive and relational social capital necessary for such bridging ties to be conduits of knowledge. Overcoming these issues is important, as Rust et al. (2020) suggest that it is through these ties that groups may prepare for innovation. The extent to which this is true in the case study groups is presented in section 6.3.

There was clear concern from participants about the lack of intellectual capital transfer through linking ties. Recall Thomas' 'expression of frustration at how we get these lessons and ideas back to policymakers'. In the 2020 groups, it was unclear to members how their collective learning would be transferred through network ties, if at all. Knowledge transfer through such ties is further complicated by the unique narratives which each group will generate, which must then be translated into terminology which is appropriate for policy discussions. Rosie explained how, in her experience, her staff had struggled to assimilate the information they had been given as they did not have access to practical experience themselves. Without access to a shared narrative

around what 'works out on the ground' there is room for misinterpretation of evidence which does make its way to them. Participants were particularly keen to see recognition of the regional variations in land management possibilities, for example regarding supplementary feeding for stock. This evidence suggests that, as participants in Raymond et al.'s (2016) work responded, local knowledge continues to be undervalued by government organisations. The development of Test and Trials for ELMS represents a move towards valuing this knowledge; however, the extent to which it can all be incorporated into policy remains to be seen at the time of writing.

Some group members felt that their facilitators were able to make a case regarding their successes to local government officers and affiliated organisations, thus allaying Raymond et al.'s (2016) concerns regarding the transfer of evidence somewhat; however, there was not universal agreement on the extent to which knowledge and evidence was valued by actors in linking ties. This lack of trust is a significant issue given the changing context of agricultural policy; as discussed above, it is during times of change that trusting relationships are most vital (Boisot, 1995, cited in Nahapiet and Ghoshal, 1998: 253; Rust et al*.,* 2020). Although the facilitators who took part in this research suggested that they worked to ensure their groups' successes were passed on through linking ties to those in policymaking, it is necessary to emphasise that these positions may be misused (Rust et al*.,* 2020). There should be recognition that facilitators may misuse their position as a gatekeeper of knowledge flows based on an agenda, be it personal or organisational, either explicitly or implicitly.

Thus, the mechanism through which evidence is transferred should be transparent, and those contributing should be aware of how it is utilised; in so doing, it may improve individuals' willingness to engage with knowledge formation that can have a positive, direct impact on policy. De Jong (2010) suggests that the facilitator is best placed to make this happen, as they are in a position to observe inhibitors and stimulators within the network. An alternative approach could follow John's suggestion (section 4.2., page 103) of inviting local area officers along to their group's events; this may allow group

members to develop trust in actors across power differentials and may also provide further power to the members in that they can demonstrate the requirement for flexibility and locally tailored approaches through the improvements that they achieve as a result of working collectively.

These findings resonate with those found in the literature, as de Jong (2010) argues, networks which successfully exploit linking ties are more likely to benefit from improved knowledge sharing and behaviour changes. Participants' continued uncertainty around access to linking ties, where there is a foundation of trust, is concerning, as it is through these ties that improvements to capacity, ways of working, and policymaking, can be made (Hall, 2008; de Jong, 2010). As demonstrated in section 6.2.1, this relates particularly to a lack of the cognitive dimension of social capital with regards to different understandings of the language employed in policy documents, which means individuals are not motivated to exchange their knowledge, nor do they see value in doing so. This was exacerbated by the perception that many policymakers had never set foot on a farm and therefore did not understand the practical implications of their policy suggestions. It is essential that this issue is overcome to encourage engagement and ensure individuals can access opportunities for knowledge exchange, particularly as there is evidence from the Midlands Farmer group, and from the reviews of the CSFF that changes are being made as a result of current groups' experiences. Although it is not something the case study groups took part in, this commitment to learning through experience is reflected in Defra's co-design approach, with the experiences of Test and Trials groups demonstrated within policy documents (Defra 2020c; Defra 2020d; Defra 2021a; Defra 2021b).

Bridging and linking ties are essential for behaviour change and subsequent environmental improvement (de Jong, 2010; Mills et al*.,* 2011); however, the groups in this study were not yet at a point where they trusted other actors sufficiently to engage with those they knew through these ties. Further consideration should be given to the structures through which knowledge is exchanged to ensure the exchange process is effective and provides

participants with the capacity to improve the environment at the desired scale.

6.2.3. The types of knowledge exchanged in CSFF groups

Nahapiet and Ghoshal (1998) distinguish two types of knowledge: tacit (know how) and theoretical (know what). Understanding which of these types of knowledge is exchanged, and through which processes, can inform the support of knowledge exchange in networks. It is clear from the literature that tacit knowledge is essential in farming (Urquhart et al*.,* 2019; Skaalsveen et al*.,* 2020). Participants in this research expressed a preference for this form of knowledge; however, theoretical knowledge also had a role to play in behaviour change, as explained below.

New approaches to managing the land and incentivising environmentally beneficial practices have been implemented with varying degrees of success throughout the last four decades (Burton, 2004). In accessing a CSFF group, farmers and land managers can more readily avail themselves of current knowledge regarding significant topics and changes to AES than if they were searching for such information alone. As Blackstock et al. (2010) found in their study of behaviour change to improve water quality, spaces in which farmers can avail themselves of this knowledge are vital, as what they learn may completely contradict their current beliefs. Timely access to this knowledge in a period of significant change was important to participants; several expressed concern over making decisions prior to understanding the full extent of ELMS and other opportunities which may become available, such as carbon farming.

The presence of a facilitator reduced the time and financial costs of accessing such information, as demonstrated by Olivia's comment on checking emails from Emily for information relevant to her organisation's approach to land management. Participants were grateful for the opportunity to stay up to date with the latest developments, and all facilitators sent regular email updates to ensure their members had access to the latest information. Rust et al.'s (2020) argument that advisers retain power over the information they share with their clients is again important to consider here; however, participants in this

research felt that they were able to discuss their requirements with their facilitator, and that their facilitator would do their best to provide them with the information and opportunities they required.

For many participants, the flaw in theoretical knowledge is that it does not consider locally specific land management issues. Participants, particularly those who identified as farmers and had worked in the same area for decades, demonstrated an awareness of key environmental issues in their area that they had often learned of through direct experience on the land. Thus, tacit knowledge was the more highly regarded type of knowledge amongst participants. Access to theoretical knowledge allowed them to understand *what* they should do to improve their land and *why* it was necessary; however, it was through group events in which they could see others using these practices first-hand that they began to develop an understanding of knowing *how* they should achieve this. The opportunity for experiential learning, in which participants could compare the actions of their peers with their own, discover commonalities, and consider ways in which they might improve was welcomed by all participants. The tacit knowledge arising from these experiences did not always align directly with the formal knowledge captured in policy documents; this reflects the importance of analysing the context of the creation of knowledge, as Thomas et al. (2020) assert. The following two examples demonstrate the importance of providing opportunities to combine both theoretical and practical knowledge and analysing the conditions in which this knowledge is generated.

The first is Freya's experience of the group of farmers and land managers visiting from Dartmoor. This group's understanding of supplementary feeding differed to those in the Northern Farmers' area, as the two had very different farming contexts. Freya explained that for many farmers she worked with, the careful allocation of supplementary feed for up to six months of the year is vital, as the weather conditions and grass growth in the AONB can represent a concern for animal welfare. She explained that the solution offered by this particular group from Dartmoor - moving stock to lower ground - was not feasible for the Northern Farmers. Freya expressed concern over the 'one-size

fits all approach' which failed to account for locally specific conditions; although all farmers and land managers know *what* is expected of them in relation to specific AES options, *how* they go about achieving this, if it is possible for them to do so, will differ depending on the location and farm context. Although, on this occasion, Freya felt that some visitors failed to understand the differences in feed available to the Northern Farmers, the visit is nevertheless important, as Northern Farmer member Thomas' reflection on knowledge suggests:

> *What we base our view of the world on changes so much depending on what becomes available to us.*

The second is the discussion in the East Farmers group on the use of glyphosate in meadow management. John explained in his interview after the event that he considered the use of glyphosate to be completely unacceptable as we know more about 'the damage to the environment, than we did ten years ago'. However, during the event, Sophie, whom John considered an expert on the topic based on her experience, had taken the opposite view and explained that glyphosate's use on monoculture grassland was appropriate, as it presented the opportunity to reseed the area with local sward species without competition. Although he would not change his approach based on Sophie's knowledge, John recognised that for others in the room who were considering establishing a meadow, the chance to hear from individuals with experience of different techniques would be important in their decision-making process. The importance of having in-person discussions for both the quality and quantity of intellectual capital exchanged is considered further in section 6.2.4.

It is important that both practical and theoretical knowledge is shared through CSFF groups. The extent to which each form of knowledge can be shared in an online setting is explored in the following section. Participants' preference for experiential learning should be considered, and continued opportunities for in-person events, such as farm walks, should be provided where possible. It is essential farmers and land managers have some flexibility in implementing farming practices to ensure they can tailor them to the specific context of their land.

6.2.4. The implications of taking things online

Participants discussed a range of positive and negative impacts resulting from the move to online events. For some, an increasing variety of events which could be accessed from anywhere, at any time, presented significant benefits. The opportunity to hear from experts across the country was also welcomed by many. However, this research has shown that the inability to develop social capital offline had clear implications for the exchange of intellectual capital within groups both online and offline. Participants also commented that the online space felt more 'formal' than in-person events, and that through sticking to an agenda, there were fewer opportunities to ask questions. The following section explores the impact of online events through Nahapiet and Ghoshal's (1998) requirements for the combination and exchange of social capital – first, assessing participants' access to events, then examining their motivation to attend, before finally considering the value which may be obtained through attending an event online.

Improvements in technology have aided the transfer of knowledge and there is an increasing focus on the potential of digital extension services (Klerkx, 2021). The onset of the pandemic accelerated the requirement for online access to events and communication opportunities. The required shift in event delivery as a result led to a proliferation of webinars and similar events that group members could access online, often for free. Facilitators encouraged their members to seek out further options and attend webinars on topics which they may never have covered in CSFF group events themselves. Although the opportunity to do so was welcome, there was no evidence that participants were changing their land management practices as a result of the information they gained from attending online events, nor did they indicate that they were leaving the event having made a commitment to working collectively with their peers.

Despite an overall improvement in the online delivery of events, and an enhanced uptake as a result of the pandemic, Oliver raised a significant issue regarding physical infrastructure, with limited broadband services in the Northern Farmers area affecting whether group members could access online

events at all. This lack of access has the potential to exacerbate the isolation described in section 6.1.4, and again raises the important issue of continuing to provide opportunities for members of CSFF groups to meet in-person. This is particularly important in the early stages of group development, as for those who cannot access the events developing further social capital which comes with the social exchange of knowledge in these fora is difficult. An inability to develop trust online had an impact on the groups' effectiveness, as suggested by Morrison-Smith and Ruiz (2020), as some members were unwilling to participate in the exchange of knowledge until they had met their peers in-person. This was made more difficult by the structure of online events, which tended to leave no time for discussion.

Participants' frequent references to food, and the conversations that they had whilst eating after events, reflect Putnam's (2000, cited in Jönsson et al., 2021) assertion that dining out offers the time and place for conversations which allow us to strengthen social bonds. As several participants suggested, such an opportunity can be a motivation for people to attend events. There was evidence that participants considered such events to be more valuable as they could access personal advice over lunch or dinner. This opportunity was completely missing from online events; thus, group members were unable to integrate in the same manner. Not having the informal space and time to ask questions of experts or discuss experiences with their peers meant participants were warier of sharing information that was important to them. In addition, online events were more structured; the conversation was unlikely to stray far from the proposed topic, unlike those I heard during in-person events with all groups. The interactions between group members were visibly different online; as it is through interaction we learn, the amount of knowledge exchanged is inhibited in online spaces. To address the limited interaction in online spaces such as Zoom and Teams meetings, it may be possible to learn from advances in gaming to offer digital spaces which replicate in-person event spaces (Mushtaq et al*.,* 2017; Klerkx, 2021). These platforms could offer farmers and land managers an experience closer to that of attending an event to hear from an expert, and then having the opportunity for informal interaction after the event, using avatars for conversation and links embedded into the

virtual room which users can follow to gain more information if they would like to do so. Although this could improve users' experiences of meetings, such approaches should recognise that support would be required to ensure users have the skills to access these spaces.

A requirement for online meetings did not only affect group members. Participating facilitators did not have an opportunity to meet others in-person, as those funded in 2015 had done in Birmingham. Thus, they did not have a chance to discuss approaches to facilitation, which participating facilitators felt could be valuable. They did not consider online opportunities to share their experiences to be the same as a chance to meet up in-person. Although the RPA sessions offered an established frequency of communication, which is important in encouraging individuals to cooperate in online meetings (Morrison-Smith and Ruiz, 2020), the repetitive nature of the meetings suggest that the RPA had different communication norms to the facilitators that attended the events. This had an impact on participating facilitators' motivation to attend the sessions, as it was clear that they did not see value in hearing the same information or concerns again; instead, they felt that they would have benefitted more from the opportunity to discuss their experiences with others attending the event.

Given group members' preference for in-person events, it would be easy to overlook the benefits of those delivered online. These can provide a good starting point for sharing information with members; however, their drawbacks should also be carefully considered by facilitators to ensure everyone can access the event. The above examples show that, despite presenting an opportunity to incrementally increase their knowledge of a given topic, online events were not as conducive to improving group members' capacity for action as those which took place in-person.

6.2.5. Concluding remarks

Nahapiet and Ghoshal (1998) propose that the exchange of intellectual capital requires certain conditions to be met. Although the application process provides a strong structural basis from which CSFF groups can begin to

develop the cognitive and relational dimensions of social capital, this was yet to be entirely successful in any group. Despite facilitators' attempts to create a shared vision, participants' understanding of key terms differed, and long held norms made developing trust between group members difficult.

As a result, knowledge exchange mostly remained within networks characterised by bonding social capital. This is despite some participants' recognition that bridging capital would be essential in achieving collective change. This research has shown that it is vital the mechanism through which the knowledge and experiences of group members is transferred back through linking ties is transparent. Some participants expressed concern that the intellectual capital they were sharing within their groups was not valued by those it reached through linking ties. This is important, as where group members can capitalise on bridging and linking ties, it is likely their capacity to achieve their goals will improve.

Participants expressed a preference for tacit knowledge; however, access to a CSFF group provided them with important updates regarding the latest developments in ELMS and novel approaches to land management. This was appreciated, and the facilitator was again referred to as a key individual through whom participants accessed objective knowledge.

Although it was necessary to hold events and meetings online during the pandemic, and there were several benefits to holding them online, further work should assess the quantity and quality of knowledge exchanged during such events. This research has shown that the event structure, especially the lack of time for informal conversations, hampered the exchange of knowledge.

6.3. The potential for collective action

The previous two sections have explored the development of social capital and the exchange and combination of intellectual capital in the CSFF groups. The following section will explore whether the groups were able to exploit these capitals in pursuit of collective action, a key aim of the CSFF and the focus of research question 3:

To what extent has social and intellectual capital development in CSFF groups facilitated collective action for the delivery of landscape-scale environmental outcomes?

Nahapiet and Ghoshal (1998) suggest that the interrelationship of social and intellectual capital can give groups an advantage; however, they recognise that their thesis focuses only on the creation of the two capitals, not on their exploitation. This section will argue that groups that are able to develop stocks of social and intellectual capital are at an advantage regarding preparedness for collective action, as actors know *why* they must work together, *how* they will approach their work, and they can exploit both *what* and *who* they know. First, examples of collective action within the group will be examined, before specific barriers to such ways of working are explored. The examples will then be used to explicate the conditions required for collective action to occur, and the specific forms this may take.

6.3.1. Examples of collective action

Throughout this section it is again important to distinguish which form of 'working together' is taking place in CSFF groups. Cooperation sees actors work together under the direction of a third party (Prager, 2022), while collaboration involves actors meeting and working together, maintaining regular communication and developing trusting relationships (Prager 2015; Prager, 2022). In this study participants' use of this language varied hugely; thus, this research supports Prager's (2022) conclusion that it is vital future policy and collective projects 'define what type of farmer cooperation is aimed for' to ensure people can work together effectively. Earlier studies of the CSFF found similar, with facilitators in Breyer et al.'s (2020) review providing varying definitions of the collaborative work that their group were carrying out. In addition, although two thirds of the 25 facilitators in Breyer et al.'s review suggested that their members were engaged in new collaborative working, many were unable to give specific examples that were a direct result of the presence of the group. It is promising to see that Defra's Tests and Trials show awareness of the important distinctions between the potential mechanisms for collective action (e.g. Defra 2021c makes the distinction between collaboration

and coordination on page 12) and it is important that these distinctions remain clear in final policy documents, to ensure implementation is effective. The final section of this analysis provides further insight into the CSFF mechanism for collective action and how this may usefully be taken forward into new schemes.

Farmers and land managers have long worked together to achieve land management goals. This may be through sharing machinery (Hodge and Reader, 2007; Flanigan and Sutherland, 2016), or managing a common (Franks et al*.,* 2011). Many participants referred to such tasks in their interviews, for example, several participants from the Northern Farmers group worked together to manage a local common, with Owen as their land agent. However, as several authors recognise (Emery and Franks, 2012; Prager, 2022), willingness to cooperate with a neighbour for the purpose of a specific work task does not necessarily map onto a willingness to cooperate in further tasks, nor does it mean an individual is more likely to want to cooperate in a collective AES. In many cases, cooperation tends to be driven by time and economic efficiencies as opposed to environmental improvement, and most of the current collective activities in the CSFF groups were no different. This lends further support to Prager's (2022) suggestion that funding timelines must accommodate time for developing social capital, particularly as this is an important component in improving groups' capacity for collective action (Mills et al*.,* 2011). This research highlights the importance of framing social capital development as fundamental to a group's capacity to develop conditions in which they can work together, rather than it simply being considered a benefit.

In this research, the Midlands Farmers' work on restoring riparian habitats was the most significant cooperative effort. This was a funded project, which saw Chloe's organisation working with a sub-group of the Midlands Farmers group to deliver improvements to water quality and connectivity in riparian habitats. These farmers received support from a dedicated water and wetlands officer to ensure their delivery was coordinated. This project was limited in its scope, and certain members of the group were not able to access funding based on their location. This meant that, despite Daniel's enthusiasm to participate in a

catchment-based scheme, he could not access some of the funding available to some of his peers. Fortunately, Daniel remained positively engaged with the group; however, he did express that he had initially been frustrated with the allocation of funds. In addition to their work on water quality, Barbara's commitment to her shared project narrative had encouraged farmers and land managers to implement various options on their land for the benefit of invertebrates. This remained at the individual scale, but the coordination of options goes some way to realising her vision of corridors across the county for wildlife.

Although there were limited examples of physical collective action for the benefit of the environment, there is evidence that CSFF events provide spaces in which group members may act 'in pursuit of members' perceived shared interests' (Scott and Marshall, 2009) that relate to shared knowledge and emotional resources. The development of collective knowledge is a collaborative process (Zucker et al.*,* 1996, cited in Nahapiet and Ghoshal, 1998: 248) and as explored in the previous chapters, there is evidence that participants are becoming more willing to come together at group events to share knowledge which may improve land management practices and lead to a coordination of delivery across holdings within the group.

This form of collective action at group events delivers further social benefits, including contributing to group member wellbeing and the sense that the group holds a collective voice, which can be relayed back to government officials through the facilitator. In addition, as explored in section 5.3.2.2, where levels of social capital are sufficiently high that group members are willing to discuss their concerns, they can develop a shared narrative based on current understandings of ELMS and through this discuss its potential impacts on farm businesses. The benefits of social capital development in groups are demonstrated in Short et al.'s (forthcoming) findings that membership of a CSFF group provides wellbeing benefits to group members. Again, this suggests that social development is an important precursor to environmental improvements, as where people feel that they are not 'backed against a wall' (Esme, Midlands Farmers), they are more likely to act. As Prager (2022)

suggests, providing an investment in the development of social capital may increase the likelihood that farmers and land managers will work together through their own initiative, rather than requiring a facilitator. At present, there is evidence to conclude that the current investment into preparedness for collective action through the CSFF is not substantial enough; Barbara was applying for another round of funding because the Midlands Farmers continued to require her, and her successor's, support.

Although physical examples of improvements through collective action were limited, the collective action that was taking place in CSFF groups again highlights the importance of developing sufficient social capital to ensure farmers and land managers have the capacity to deliver on large scale projects. Additionally, funding to support specific projects is required to ensure actors have the financial capacity to deliver too. It is important that the impetus generated within CSFF groups is not lost; as highlighted, social and intellectual capital take significant time to develop, and if continued investment is not found, members could lose motivation. Although the conditions participants described are conducive to the development of social and intellectual capital, there is no evidence to suggest that collective action occurs as a direct result of group events because there are currently limited external factors to motivate this. These barriers to collective action are explored in the following section.

6.3.2. Barriers to collective action

We have seen that even where levels of social capital meet a point at which they facilitate the combination and exchange of intellectual capital, this exchange may not be sufficient to prompt behaviour change, as other facets of social capital may remain prevalent, such as the obligation to produce food for the nation (section 4.3). As norms related to being a good farmer developed around production and tidiness (Burton, 2004; Burton et al*.,* 2008), along with values of independence (Sutherland and Burton, 2011; Emery and Franks, 2012), the move towards a collective approach to land management for restoration of habitats represents a significant change; one which, according to Ben, will not happen quickly. Again, we see the 'dark side' of social capital, which leads participants to be wary of working with others based on norms

they have previously followed. Facilitators also demonstrated the importance of socially and contextually embedded knowledge about what it is appropriate to ask of farmers and land managers regarding working together. For example, Emily knew that bTB was a big issue for many farmers and land managers in the West Farmers area, and that dealing with this issue must come first for their businesses. Thus, she was aware that she must approach issues regarding the environment sensitively, as often it is not the priority. Additional individual circumstances will affect people's capacity to engage with collective efforts; these may include negative feelings, a lack of trust, a lack of financial capital, or a lack of understanding of the aims of the collective work. Findings from this research corroborate with conclusions reached by Emery and Franks (2012), Prager et al. (2012), McKenzie et al. (2013), and Riley et al. (2018) in recognising that there are myriad influences on farmers' and land managers' individual behaviours in relation to joining a collective scheme. This issue is exacerbated as older farmers, who may have developed reciprocal relationships, are retiring or dying. Recall Arthur's comment in the fieldnotes from the Northern Farmers' event – the changing social landscape means that social capital doesn't exist in the way it once did, people don't know their neighbours as well as they may have in the past, and it can be difficult to develop relationships with those who move to the area if they do not share similar norms and beliefs. Where relationships are developed, actors may not share the same narratives of previous cooperation; this may hinder their understanding of their obligations when working with others and thus affect the progress of any collective projects.

Emily's comments serve as a reminder that it is vital to consider the business viability of each farm, and that farmers' and land managers' individual socioeconomic situation will have a significant bearing on their decision to become involved in a collective scheme. Socially, individuals may be willing to commit to working with their neighbours; however, accruing additional costs through cooperating on new tasks may not be feasible for their business. This research supports previous findings, with several participants commenting that they would not work with other group members without adequate funding. The Midlands Farmer group recognised the vital role of their catchment-based

funding in their ability to deliver the wetland scheme. Landscape-scale improvements were seen to present significant capital costs which could not be reached by group members themselves, nor were some able to deliver the work themselves. Had it not been for this funding, the Midlands Farmer group would have been unable to deliver improvements on the scale that they had hoped. Participants' concerns over the financial implications of participating in a collective scheme suggest that more can be done within the CSFF to demonstrate the benefits of such schemes, including improved efficiency, higher yields and the sharing of costs, as found by Prager (2015).

In addition to funding and social capital, timing plays an important role in mediating the extent to which farmers and land managers are able to work together. Although participants were largely positive about working with others in the group to achieve landscape-scale improvements, Darren noted that this was not easy to achieve, as many farmers and land managers in the area now relied on contractors for haymaking and harvesting. As a result, it was not always possible for Darren to source the green hay he required for his meadows. In addition, certain collective activities may be constrained by members' current AES agreements. Finally, where funding does become available for group projects, like the Midlands Farmers' work, it is essential that recipients can align their work with the funding and delivery timelines of the project. Again, we see the importance of network ties in bringing people together for an application to meet a short deadline. Without the presence of a facilitator, it would be more difficult for groups to avail themselves of such opportunities.

A lack of clarity on what is expected of farmers and land managers in the coming years does not create an environment in which people are willing to act, particularly where this requires working with others. It is important to be aware of the individual context of each actor when attempting to improve levels of social capital in a group to a point at which group members feel they can work together. Again, the presence of a facilitator can ease this process; as de Jong (2010) suggests, they are in a position to examine the conditions their group members require to engage in collective action and ensure they are

supported. The following section draws on the groups' experiences to consider the conditions in which collective action is most likely to occur.

6.3.3. Creating the conditions for collective action

The above examples of collective action, and potential barriers to action, provide an insight into the conditions required to ensure a group is prepared to work together. Just as the combination and exchange of intellectual capital require favourable conditions, so too does creating the capacity for collective action. De Jong (2010: 52) suggests that 'patterns of collaboration are the direct results of the quality of social connections between individuals'. Once network ties have been established, it is vital that the relational facets of social capital are nurtured, if collective action is to be pursued. Particularly important is the development of a shared group identity, built around trusting relationships, which can improve collective efficacy (Nahapiet and Ghoshal, 1998; Riley et al., 2018). Each of the groups in this research had issues developing this shared identity, namely as a result of the requirement to meet online, which in turn led to further issues developing other facets of relational social capital, including norms and trust. As explained in 6.2.1, establishing groups in areas which lend themselves to the development of a collective identity may be an important route to ensuring CSFF participants feel an obligation to their group and are able to support their peers in pursuit of their groups' goals. Where this is not possible, the development of a shared narrative, such as that which Barbara used with the Midlands Farmers, may represent an alternative way to develop collective norms and obligations. The quality of social connections is largely influenced by the remaining facets in the relational dimension of social capital; thus, this section will now examine how relational capital influences the conditions required for collective action.

Reed et al. (2010) argue that trust is essential for behaviour change. Although the CSFF mechanism provides a means through which intellectual capital may be combined and exchanged, there is no guarantee that group members will act on this new knowledge if it has not come from an individual whom they trust. Several participants comment on the lack of action they have seen in their groups, and George (section 5.3.2., page 143) comments explicitly that

he believes this is down to a lack of trust in the Northern Farmers group. This correlates with Morrison-Smith and Ruiz's (2020) observation that a group must have high levels of trust prior to moving communication online if they are to be effective. The 2020 groups were unable to achieve their early goals, as many members did not have chance to meet their peers in-person prior to lockdown.

Trust and open communication are essential in developing a shared vision towards which a group can work. This communication should, where possible, use a shared terminology to which all group members can relate; otherwise, their perceptions may differ, and they may struggle to agree on a vision. As Henry and Eliza explained in section 4.4, without this vision, there is the potential for confusion as to the exact actions group members should take and this can inhibit collective action. In creating this vision, it is essential to ensure there is a common understanding of the key terms used. As Thomas and Daniel demonstrated in section 4.4, there is uncertainty about the term 'landscape' and how exactly this may be affected by collective working. It may be more straightforward for groups to work together on a specifically designed project within a given catchment that is attentive to local needs, such as the Midlands Farmers described, than to spend time developing a collective vision from scratch. This would allow the focus of valuable resources to be on relationship development and implementation, as opposed to visioning.

Rosie speaks of the flexibility required to meet these conditions, stating that it requires a learning process in which people's cognitive expectations change, and in so doing, allow them to consider the potential for a collective approach. This requires all actors within a network to recognise that learning, particularly when it involves issues as complex as environmental change which requires action on behalf of numerous stakeholders, is an iterative process which may not lead to change immediately. Thus, it requires appropriate timescales in which social capital can be developed to the point at which the intellectual capital exchanged in groups is relevant, and of high quality. This may require government to hand the levers of control over to local groups to determine how best to deliver on a predefined project, as is currently being trialled in the ELMS

Test and Trial process by Defra. This is particularly true in times of uncertainty and reflects Boisot's (1995, cited in Nahapiet and Ghoshal, 1998: 255) comments on trust as a necessity in times of change. This current period, in which farmers and land managers are waiting to hear more about ELMS developments, require flexibility and trusting relationships. The CSFF groups offer a space in which members can negotiate their understanding of future schemes and discuss potential collective approaches; however, this will only occur when trust is present.

Most importantly, resource is required to ensure collective action can be achieved. This is true during the group development stages and in the physical implementation of environmental improvements at a landscape scale. This research has demonstrated that there is the potential for failure to coordinate if the development of social and intellectual capital in the groups is not adequately supported by a facilitator; often, facilitators found they were working beyond their allocated CSFF time and were thus unable to claim for their time. This research supports Prager's (2022) suggestion that the way in which groups can best be supported to a stage at which they can collaborate should be explored further. It is important to ascertain the best mechanism to support collective action; this may be through the CSFF approach, or through one of the approaches currently being explored in Defra's Tests and Trials. Flexibility may also be required as a group develops and its needs change; this should be considered in AES developments.

6.3.4. Concluding remarks

There was limited evidence of collective action for the benefit of the environment at a landscape scale; however, the eldest group to take part in this research (the Midlands Farmers, first funded in 2015) shows promising signs of what is possible when time is dedicated to developing social and intellectual capital and funding is acquired for a landscape-scale project. The lack of collective action in the other three groups can be attributed to two significant issues. The first relates to issues around social and intellectual capital, largely caused by the difficulties in communication thanks to the

pandemic, whilst the second is mainly financial, as the groups had been unable to access funding for collaborative action at the time of data collection.

An important limitation here is that this research did not explicitly explore the potential landscape-scale environmental improvements that may have occurred in each of the case study groups through option monitoring or environmental monitoring. Breyer et al.'s (2020) and Short et al.'s (forthcoming) reviews demonstrate that options are aligned, but current reviews do not explore specific examples of landscape-scale change as the monitoring and evaluation framework does not allow for this. Further research should assess the extent to which landscape-scale working has been achieved in CSFF groups and ascertain whether it is possible to attribute specific landscape-scale environmental improvements to the groups' activity.

This research contributes to findings on farmer behaviour that suggest that social changes must occur before farmers and land managers are willing to implement practical changes, particularly where these changes require working with others. Thus, it may also be argued that natural capital outcomes are highly interdependent with social and intellectual capital outcomes and should be recognised as such in future policy.

6.4. The findings in the context of the aims of the CSFF

It is important to examine whether the groups have functioned as expected when compared to the overall aims of the CSFF. Importantly, the CSFF agreement states that to qualify for funding, group members should "[use] any new knowledge or expertise provided to operate in a different way" (RPA, 2022: 13), namely, "aligning the management activities across different parts of the holdings, to deliver at a landscape scale" (RPA, 2022: 13). Although there is limited evidence of group members operating in a different way, this does not specifically pertain to operating with one another to deliver improvements at the landscape scale. We have seen evidence of this in the Midlands Farmers area, where participants received funding to deliver work on the ground, but in the absence of specific funds, delivery at the landscape scale can be difficult to achieve. Indeed, there remains confusion over what

the ‘landscape’ scale should encompass and the types of activity which should be undertaken to ‘improve’ it. This research corroborates Prager’s (2022) assertion that the CSFF groups provide an opportunity for social capital development, but there was little current evidence of collaborative, or indeed cooperative, management in this research.

As demonstrated in Chapters 4 and 5, the development of social and intellectual capital in one group does not happen at the same pace as in others. This research has demonstrated that it is important to be aware of the contextual factors relating to each group and recognise that processes of interaction which work in one specific situation, may not work across all groups aiming to collaborate for environmental benefit. With such a discrepancy in the pace of development it is essential that some flexibility is built into future schemes. Just as it can take several years, or even decades, to witness environmental change, so it is with the social change required to make a difference to the environment at a landscape level. This is particularly the case in areas where farmers and land managers have traditionally led isolated lives, such as those described by Owen in the Northern Farmers region, and in areas, such as that of the East Farmers, where there is a diversity in farming systems and opinions on how best land should be managed.

Although the case study groups may not have reached the point at which they can collaborate to deliver tangible environmental benefits, this research has demonstrated that groups can deliver coordination and creativity. By encouraging participants to share their ideas at events, others are inspired to try similar, or at least consider how a specific practice may work on their land, or for their business. It is vital to recognise the role of the facilitator in bringing diverse individuals together to tackle a common goal; without their input, it is unlikely that everyone with whom I spoke during this research would be a part of the groups, particularly those with diverging beliefs such as the participants in the East Farmers group. Those who take on the role of facilitator tend to be in a better position than many of their group members regarding their levels of social capital and have the knowledge of dealing with such administration processes having dealt with them through previous roles with their

organisations. Crucially, they have the financial support of their organisations; facilitators described how they often worked on CSFF issues beyond the time for which they could claim exclusively from the CSFF funding itself.

The diversity is the CSFF's strength; as John said, there is a need to understand how we can create a mosaic landscape which delivers for both society and the environment. In this sense, we see the power of bridging social capital in knowledge exchange processes, as suggested by de Krom (2017) and Rust et al. (2020). However, it is important to recognise that this may not be the case in all groups, particularly those who have experienced changes in facilitator. As Henry and Eliza demonstrated, it was difficult to coordinate their CS agreement with others in the area, as at the time, they were unsure of the overall aims of the West Farmers group and were therefore unable to ensure their CS goals aligned with those of the group. This suggests that some flexibility in AES is required, to ensure agreements can be amended if required. The impact of this change in expectation should not be underestimated; Henry and Eliza felt that the lack of objective was damaging to motivation in the area.

The government has made a commitment to encouraging cooperation and collaboration in ELMS. If this is to be successful, continued financial support for facilitation within these schemes should be strongly considered. The meaning of 'working together' should also be clearly outlined in these policy documents, and the expectations of individual landowners and facilitators should be clarified. At present, documents on both schemes retain 'coordinate', 'cooperate' and 'collaborate' and other terms which are open to interpretation, such as landscape itself. The Quarterly Evidence Reviews provided by Defra show promise and the different mechanisms for collective action which are presented in these reviews should continue to be clearly defined in future documents. As described in section 6.2.1., providing an unambiguous definition of the expectations of a group can help to overcome misunderstandings and ensure groups of farmers and land managers are able to develop relationships in which they can work collaboratively. Where there have not been previous schemes which have allowed people to develop

relationships, collaboration is unlikely to occur. Although it is clear how important a role the facilitators have played in their groups' development, the issue of dependency should be noted. If the government are dedicated to promoting collaboration between farmers and land managers, which occurs in much the same way as small-scale collaboration such as machinery sharing always has done, they should limit the extent to which they promote the facilitatory role as it is clear groups can come to rely on this individual. If, however, cooperation with the support of a facilitator is a possibility and is something which will be funded in future schemes, then the CSFF provides a good model.

Participants in this research raised another issue regarding applications which are not successful in receiving funding. A potential facilitator may work hard to develop social capital in preparation for receiving funding; however, if there is not sufficient budget then they may lose out to applications which are deemed to be stronger. If this is the case, the social capital which has been developed to support the application process, may again be lost, and potential improvements to group relationships lost due to a lack of funding. This can be harmful to the social capital that is developed, as potential group members may lose trust in this source of funding, thus becoming unwilling to express an interest in the next round of funding.

However, this research found that even where we make a commitment, both in time and funding, to develop the social and intellectual capital required for a group to work together to deliver landscape-scale management, this will not be sufficient if there is not funding for the required management activities to take place. Funded, targeted projects, delivered through a group of land managers brought together through a mechanism such as the CSFF, may be successful provided those involved can see clear benefits. Defra's Tests and Trials represent a positive development in our approach to understanding the mechanisms required for farmer and land manager cooperation. It is vital the social benefits of these trials are treated with equal regard to the environmental improvements, to ensure the interventions are sustainable.

6.5. Conclusion

This chapter has analysed the findings of this research in the context of the literature reviewed in Chapter 2. It has demonstrated that time and continuity are essential in the development of social and intellectual capital in CSFF groups. It has argued that more must be done to encourage collective action within the groups, particularly as even the Midlands Farmers, a group which had received six years of funding, have failed to reach a point at which group members are able to collaborate. Despite the limited evidence of collective action thus far in the case study groups from this research, there are examples of collective working in other groups that have taken part in other recent research projects. For example, Breyer et al.'s (2020) review found that some groups had established collaborative grazing regimes, others were sharing equipment or collectively purchasing items such as soil sampling kits. The presence of CSFF groups, therefore, is a positive step towards encouraging farmers and land managers to work together to reach collective goals, and there is evidence that, with the correct support, this can translate to physical environmental change.

The coevolution of social and intellectual capitals means that people are aware of the variables in their peers' values and beliefs, which supports the development of a collective identity which is backed by everyone, but remains a collection of 'rich networks of diverse people' (Hurley et al., 2022: 750). As AES in England move towards payments for landscape-scale environmental improvements, farmers and land managers who are members of a group with high levels of social capital will find themselves in a position to capitalise on the exchange of information and ideas, which, when funding is provided for capital works, can lead to collective outcomes which meet the requirements of future schemes which strive for collaboration.

The final chapter provides conclusions from this research, including an overview of the key findings and their contribution to academic literature and to policy and practice. It will provide a consideration of the limitations of the work and suggest avenues for future research.

CHAPTER 7 – CONCLUSION AND RECOMMENDATIONS

7.0. Introduction

The CSFF represents an intentional effort to invest in the development of social and intellectual capital which can drive collective action for environmental improvement at the landscape scale. Its development represents the first large-scale commitment of funding to support the collective delivery of AES in England and it is for this reason that the thesis aimed to explore the intervention to understand the role of social and intellectual capital in CSFF groups, and how these capitals contributed to collective action by these groups. To do so, it answered the following research questions:

1. How do each of Nahapiet and Ghoshal's dimensions of social capital manifest in CSFF groups?
2. How does social capital affect people's willingness to engage in the exchange and combination of intellectual capital in CSFF groups?
3. To what extent has social and intellectual capital development in CSFF groups facilitated collective action for the delivery of landscape-scale environmental outcomes?

The final approach to collecting data to answer the above questions was developed through an iterative process as described in Chapter 3. To address the research questions, this research comprised semi-structured interviews with 21 farmers and land managers, four facilitators and four members of staff in organisations working in partnership with the CSFF groups. In addition, participant observation was conducted at six group events.

The research findings, and their contribution to the academic literature reviewed in Chapter 2, were presented in Chapters 4, 5 and 6. Chapter 4 explored the influence of social and intellectual capital in the early development of the case study groups. Chapter 5 examined the group event as a site of social and intellectual capital development. Both chapters considered whether the social and intellectual capital developed in the case

study groups put them in a position to undertake collective action, and thus meet the aims of the CSFF. Chapter 6 discussed the findings in the context of previous literature on social and intellectual capital, and collective action, in land management contexts. It also addressed whether the case study groups were making progress in the context of the goals of the CSFF.

This final chapter will present the main conclusions from this work, including a summary of the key findings, an overview of the benefits and limitations of the methodologies employed to collect data, and the implications of this research for future academic research and for policy and practice.

7.1. Summary of key findings

This research found that the case study groups were making some progress towards the aims of the CSFF; however, the extent to which they were able to deliver physical change at the landscape scale was restricted by several factors. This included the significant barrier to developing social capital presented by the curtailment of in-person social events during periods of Covid-19 restrictions. Groups funded in 2020 were unable to meet with one another in-person, which they found to have a significant impact on their ability to develop trusting relationships and a shared understanding of their groups' aims. In addition, a lack of funding was considered a barrier to delivering landscape-scale environmental improvements, even where members were willing to engage in collective action at this scale.

Despite these barriers, there was a positive move towards achieving the CSFF's aims, and all facilitators seemed confident that their group had the potential to deliver work collectively. The correct mechanisms are required to allow this to happen. For example, as this research has shown, group events were considered important sites for social and intellectual capital development.

Each group's experience is unique, and it is important to caveat that the findings presented in this research are representative of their specific physical and sociocultural contexts. However, the cases presented here do support the findings of earlier work on the CSFF, including that of Breyer et al. (2020),

Prager (2022) and Short et al. (forthcoming). Thus, there is a strong case to be made for continued support in developing social capital in farming communities to ensure future environmental goals can be delivered and their outcomes sustained. The CSFF reviews have demonstrated that spatial alignment is occurring across groups; however, further research is required to ascertain the landscape-scale benefits which may be delivered beyond that which can be measured by the current monitoring and evaluation framework. This further research should be supported by a long-term funding arrangement which will allow sufficient time for changes to occur. The social benefits of an investment into social capital are also significant; improved wellbeing and the moral support of their peers can enhance people's willingness to become involved in collective action. This section will now reiterate the key findings of this research and identify their contribution to new knowledge.

1. How do each of Nahapiet and Ghoshal's dimensions of social capital manifest in CSFF groups?

The CSFF represents an intentional investment in social capital, which is a positive development considering Hall's (2008) assertion that this form of capital was often overlooked by policymakers. Section 6.1 demonstrated the interrelationships between several facets of social capital. This research demonstrated that trust was an essential facet which underpinned the development of other facets of social capital within the CSFF groups. Without this relational facet, it was difficult for groups to make progress.

The findings reveal that a shared narrative, to which all group members can refer, can help alleviate issues within the relational dimension of social capital. Where this cognitive facet is used to develop a shared system of meaning, individuals become more willing to create new ties with others who may have different identities, norms and beliefs to themselves to achieve desired environmental outcomes. A shared narrative must encourage group members to look beyond the norms they may associate with previous narratives, such as those associated with the productivist mindset of the 1970s and 1980s. Barbara achieved this; her narrative encouraged group members who

were keen to keep producing food, such as Ben, to develop wildlife habitats that worked in harmony with their desire to continue producing food.

The interrelation of the structural and relational dimensions of social capital demonstrate that the CSFF mechanism has the potential to alleviate isolation. Although participants explained that there were issues with encouraging all farmers and landowners in a given geographical area to join a group, the presence of a trusted individual, such as a facilitator, can provide those who are isolated access to networks of support. This research has shown that for those who had access to a group which had successfully developed relational social capital, it served as an important space for sharing concerns and allowed members to realise that they were not alone in facing certain issues on their farms or land.

The pandemic presented all groups with the challenge of moving their events online. Although there were positives associated with online events, overall, they were considered to present a barrier to the development of social capital, particularly the cognitive and relational dimensions. For some individuals who do not have access to the internet, it was impossible to meet their new group members until in-person events started again. The findings highlight that the impacts of delivering events online only should be carefully considered in all contexts. This is particularly important as Defra have signalled a commitment to moving to digital services.

The final finding relating to this research question, but essential throughout each of the following questions too, is the importance of time and continuity. 'Farmers don't change quickly', and so, stability and continuity in the individuals who are supporting them through change is vital if the facets of social capital are to be developed. The West Farmers' experience highlights the issues faced by a group which does not have a consistent facilitator, including a drop in motivation to engage with the group. This does present a significant question as to how facilitators can be supported for these time periods, particularly given that it can be challenging to demonstrate the economic cost-benefit of long-term facilitation as a policy measure, or whether it is possible that farmer and land manager groups will become self-sustaining.

Although there are examples of alternative methods of funding, there was no evidence to suggest that the groups that took part in this research had considered alternatives, nor had they reached a point at which they were self-sustaining.

2. How does social capital affect people's willingness to engage in the exchange and combination of intellectual capital in CSFF groups?

The findings demonstrate that the CSFF mechanism provides a structure through which group members can access new ties, and thus develop relationships in which knowledge exchange may take place. There is an important distinction between people's willingness to engage with these processes (driven by the relational dimension) and people's capacity to share their intellectual capital (driven by the cognitive dimension). All three dimensions of social capital must be developed to ensure both the quantity and quality of knowledge exchange reaches that which is expected. The CSFF application process provides a positive first step in developing vital structural capital.

Network configuration played a significant role in the combination and exchange of capital in the case study groups, with bonding ties being the most likely vehicle for intellectual capital exchange. The development of bridging ties, which play an important role in delivering new knowledge, was inhibited by the groups' difficulties with developing both the cognitive and relational dimensions of social capital. It is, therefore, important that facilitators continue to work to overcome these issues, to ensure the effective combination and exchange of intellectual capital. The same is true of linking capital; the exchange process here should be transparent, to ensure group members are satisfied that their knowledge and experiences are being shared effectively through linking ties. This has important implications for their motivation and ensures they continue to see value in engaging with the group.

This research found that environmental improvement requires a combination of theoretical and tacit knowledge. As explicit information on approaches to

managing the land and developments in AES becomes available, this must be shared with farmers and land managers to ensure they are in a position to act on the information. However, the importance of tacit knowledge, which is conscious of locally specific conditions and how this may affect the appropriateness of certain land management practices are, was considered vital by participants. This preference should be considered, as the processes by which this knowledge can be exchanged differ to those which may be used to deliver theoretical knowledge.

This research has also examined the impact of a move to online ways of working in farmer groups. What has traditionally been an industry which relies on in-person meetings, such as at marts and agricultural shows, transitioned to holding online meetings and events as a result of the Covid-19 pandemic. Although participants were more willing to engage when events were in-person, online events should be recognised as valuable opportunities for knowledge exchange for people who may not be able to access in-person events. Again, however, participants raised important questions regarding accessibility, particularly relating to physical IT infrastructure, and the usefulness of online spaces for peer-to-peer sharing of knowledge. The findings of this research contribute to the wider literature on infrastructure barriers in rural areas and present some research questions for the use of virtual knowledge exchange which may be addressed through developments in agricultural knowledge and innovation systems.

3. To what extent has social and intellectual capital development in CSFF groups facilitated collective action for the delivery of landscape-scale environmental outcomes?

There was limited evidence of collective action for the delivery of landscape-scale environmental outcomes (such as the Midlands Farmers' project); however, the CSFF mechanism can allow groups to make the most of their relationships (*who* they know) and their knowledge (*what* they know) in preparation for collective action. They will know *why* it is necessary and *how* they may achieve their goals. There was evidence that this preparation was occurring in the groups, with members identifying individuals with whom they

would like to work and suggesting their preferred approaches to shared issues (such as the East Farmers' desire to improve grassland and meadows at a landscape scale). This research proposes an extension to Nahapiet and Ghoshal's original social and intellectual capital framework to capture the extent to which a group may be prepared to engage in collective action, and the potential outcomes of this action. The extended framework is presented and explained in section 7.3. It is vital that the form of farmer and land manager collective action is defined, as currently the language and actions of groups varies hugely. If collective implementation is to be effective, the expectations placed on farmers and land managers to deliver should be made clear and the extent of the 'landscape', or geographical area, in which the project will be undertaken defined.

Throughout, the role of the facilitator has been described as essential. There was no evidence to suggest that any of the case study groups would continue to function as they currently are without the presence of their facilitator. There is evidence to suggest that the approach has the potential to lead to successful outcomes where appropriate financial and time support are provided; however, it is important to remember that this may create a reliance on one individual to coordinate collective action.

Although there was limited evidence of collective action to deliver physical improvements, CSFF groups function as spaces of care in which group members can share their concerns and receive emotional support from others in similar situations to themselves. In addition to the development of fundamental social factors, accessing a group can deliver social benefits, such as improvements in wellbeing. These benefits are important to the delivery of environmental improvements as they can improve actor motivation; thus, it is vital that this element of collective action continues to be supported if we are to realise improvements in the environment.

Significant barriers to collective action include divides in identities and associated norms, access to funding to deliver capital work, and coordinating the timing of specific practices across farms. In addition, a lack of clarity on what is expected of farmers and land managers in the coming years leaves

some unwilling to agree to work with their peers now, as there may be further benefits if they wait to do so until ELMS schemes are finalised.

To summarise, this research found that collective action requires supporting conditions. Specifically, group members should have access to the network ties required for collective work, and the relational dimension of social capital should be well-developed within a group. The goal towards which they are working should be clearly defined to ensure the cognitive dimension of social capital is developed, and everyone has a shared vision for their work. Where possible, this work should take place with some flexibility, to allow the group to develop locally relevant solutions to environmental issues that are based on the knowledge they acquire as they work. This must all be supported with adequate financial capital, both for group members who commit to working on a collective project and for a facilitator or project manager.

7.2. Research limitations

The above findings should be considered with the following limitations in mind. The research relates to four of the 136 CSFF groups which had been funded when this research was undertaken. The data collected with the four groups provides a nuanced insight into participants' experiences and the research questions were satisfied. The findings are used to suggest an extension of Nahapiet and Ghoshal's (1998) conceptual framework, which may be tested in future research. As the analysis has shown, understanding the individual context of each group is vital in assessing the form of facilitation that will work best for them, and how they might successfully approach working together.

Despite the examination of international research on farmer groups, such as studies based in The Netherlands, in the literature review, the scope of this research means that the thesis is not intended to offer international comparison. The extent to which the behaviours and experiences of English farmers and landowners are comparable to those in other countries, and thus within different cultural and policy contexts, is not explored; however, this, in addition to the experiences of those groups funded through different mechanisms presents an opportunity for future work.

These results are representative of participants' opinions of the CSFF at a specific point in time. The development of both the CSFF and ELMS has continued to the present day, with a new round of CSFF funding opening in November 2022 and the latest ELMS announcements delivered in early December 2022. Although it was not possible to return to the groups to explore participants' opinions of developments in ELMS, as I had anticipated having a chance to do before the Covid-19 pandemic, this does present an opportunity for further research, which is explored in section 7.5.

Those who elected to take part in the research did so voluntarily. This suggests they were likely to hold a positive view regarding the CSFF and engaged regularly with communications regarding their group. A research strategy for reaching the less engaged is suggested in section 7.5.

The analysis was conducted using a specific framework. As highlighted throughout the research, social capital is a complicated concept which cannot easily be defined, nor measured. Nahapiet and Ghoshal's (1998) work provides a firm theoretical basis from which to conduct research on social and intellectual capital in groups; however, the findings may have been interpreted differently were other conceptualisations and measurements of social and intellectual capital utilised in the analysis. Section 7.3 provides an analysis of the usefulness of their framework and the addition of collective action.

The pandemic restrictions themselves placed certain limitations on this work; however, through developing a flexible approach to my research methodologies, which allowed participants to choose the interview mode most appropriate for them, the project could proceed. The advantages and disadvantages of the interview modes were explored in detail in section 3.5.

7.3. Comment on the conceptual framework

The research employed Nahapiet and Ghoshal's (1998) social and intellectual capital framework to explore the first two research questions. In addition, de Jong's (2010) thesis on knowledge productivity was used in the analysis to explore the feedback loop between social and intellectual capital development. Finally, the conceptual framework considered additional literature on collective

action in farming. Nahapiet and Ghoshal suggest that their framework does not consider the exploitation of social and intellectual capital; this research has argued that those associated with CSFF groups exploit both their social and intellectual capital to prepare for collective action. In the current policy landscape, where cooperation and collaboration are increasingly encouraged, this represents an organisational advantage. Future research may usefully explore the development of social and intellectual capital, and these concepts' influence on individuals' willingness and capacity to engage in collective action using the extended framework presented in Figure 3, shown on page 219.

From left to right, Figure 3 shows the following. First, the arrows from Nahapiet and Ghoshal's (1998) original framework have been simplified, but continue to indicate the influence of the dimensions of social capital on intellectual capital exchange. The structural dimension of social capital is placed just ahead of the relational and cognitive dimensions, as the development of social capital across the three dimensions depends on the initial presence of network ties. The facets in bold were found to be most influential in this research. Arrows have been included to capture the interrelationships between the three dimensions.

Second, three different types of intellectual capital generated in the groups have been indicated in the central section of the framework, with the fourth, knowing *who* shown in the link from the structural dimension of social capital to the capacity for collective action. Accessing a CSFF group allowed members to understand *why* it was necessary to work together to address the CS priorities in their area. Knowing *what* they were required to do, both in terms of group membership and land management practices, influenced both participants' willingness to engage and their capacity to act collectively. Knowing *how* to act collectively, and *how* they may be funded to do so, had an impact on the groups' ability to reach collective outcomes.

Finally, the potential forms of collective action have been added to the right of the framework. This new section of the framework, contained in the blue shaded area, considers a group's capacity and willingness to engage in collective action and also suggests that the outcomes of this collective action

may be social and environmental. As this research has demonstrated, although physical environmental change may not be occurring yet, the development of social capital puts groups in a position in which they can prepare to engage in collective action for environmental change, and accrue social benefits.

Not all of the relationships in this framework are one way, and thus the feedback between the concepts is also represented. The framework now indicates how social capital may be influenced when people start working together, for example, positive social outcomes can improve trust and lead to the development of a shared identity and norms.

Nahapiet and Ghoshal (1998) also comment on the importance of time and continuity, yet this is not included in their framework. The significance of time and continuity in the development of social and intellectual capital, and thus the conditions for collective action, was apparent throughout this research. Thus, these concepts are included in the diagram. Should there be insufficient time given to the development of social and intellectual capital or if motivation is lost as there is no continuity, groups may hit one of the barriers indicated by a dashed red line. The framework also includes several key barriers to knowledge exchange and collective action which were identified in this research. The barriers indicated in solid red lines give an indication of issues which, if unresolved, will hinder a group's movement through all stages of the framework.

Nahapiet and Ghoshal's (1998) thesis that the interaction between social and intellectual capital underpins organisational advantage has been useful in exploring the preparedness of CSFF groups for working together to deliver landscape-scale improvements. Their focus was on the 'firm'; however, as they suggest in their conclusion, their framework proved to be applicable to another form of group: CSFF groups.

Section 7.5 provides detail on the potential for further research to develop and verify this conceptual framework, while section 7.6 considers how it may be usefully developed for practical application and for policy development.

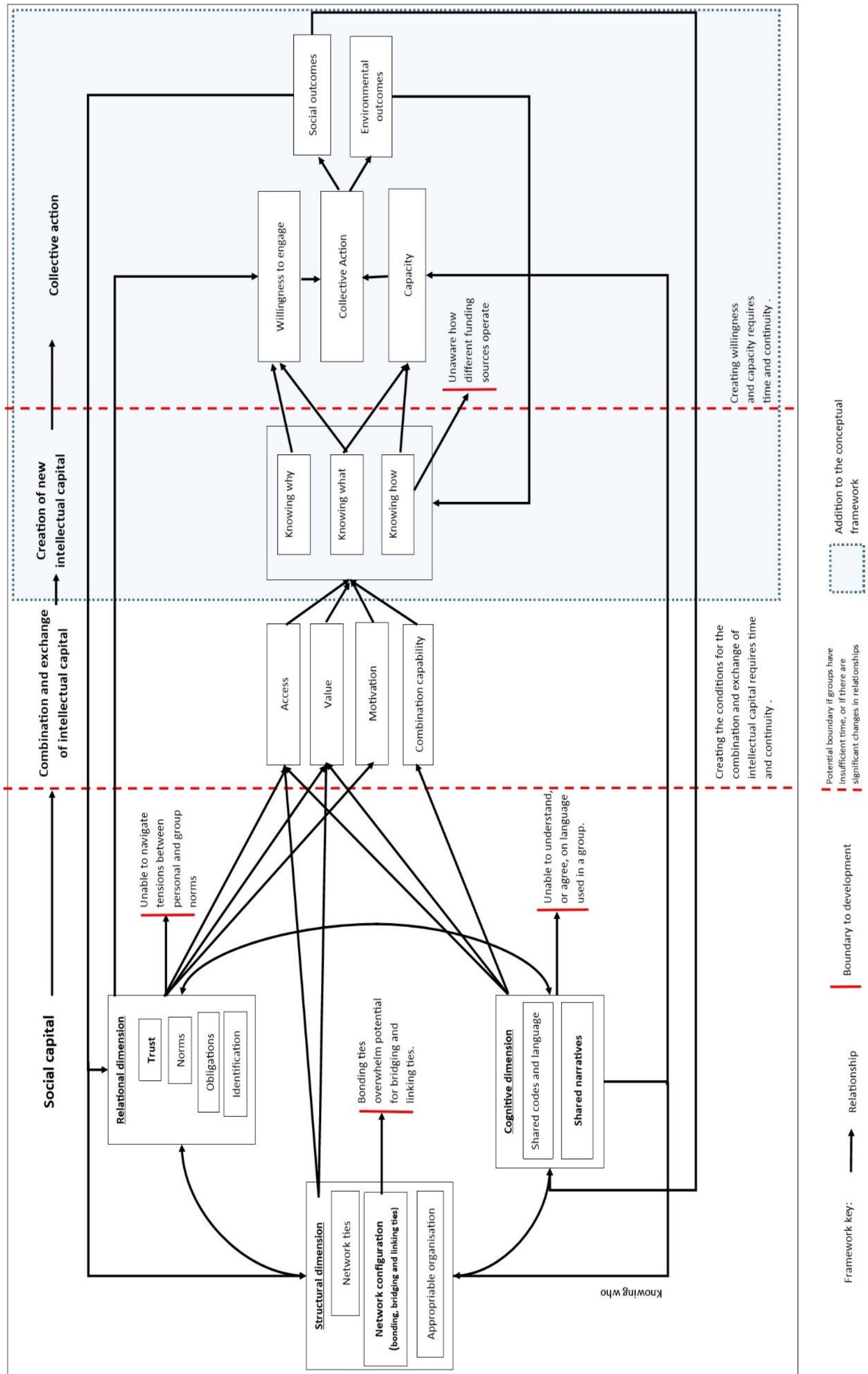

Figure 3: The exploitation of social and intellectual capital for collective action

7.4. Comment on the methodological approach

Chapter 3 provided details of the methodological approach employed in this research. The proposed approach was complicated by the restrictions introduced due to the Covid-19 pandemic; however, this served as an opportunity to reflect on the benefits and drawbacks of the different approaches to qualitative interviewing. This research provides support to the recent literature on qualitative methods during a time of social-distancing and how these may provide continued benefits in post-pandemic research.

I discuss my experience of conducting interviews in-person, over the telephone and virtually in Chapter 3. Table 4 (section 3.5., pages 81-83) offers a succinct overview of the advantages and disadvantages, from both my experience and that of my participants, along with previous literature which corroborates with each of these findings. Given the importance of rapport to researchers, it is essential to recognise that when studying behaviour, in-person methodologies offer more than those in which it is not possible to see those with whom the research is conducted. This is particularly the case with participant observation, which offered valuable insights into the dynamics of the groups. Despite using a semi-structured approach to interviewing and allowing participants to elaborate on information as they saw fit, it was clear from combining their comments on events with the observations I made that their comments on the group dynamics gave only part of the picture of the activities at events. In this case, attending an online event allowed me to observe the difficulties attendees had in generating discussion, particularly when many had to keep their cameras off due to limited broadband. Attending an event in-person also provided the opportunity to develop a rapport with participants I would later interview. The mutual experience of an event also provided a point of reference to which people could refer, should they wish to demonstrate a particular point.

7.5. Recommendations for academic research

Further to the key contributions of this thesis to the field, the research also raises some avenues for further research. These are as follows:

1. Continue to explore the dynamics of farmer and land manager groups.

The CSFF represents one intervention through which collective working is encouraged. Examining good practice in other forms of farmer cluster, be they UK-based or international, may offer alternative approaches which may be more sustainable than the funded options currently available to farmers and land managers in England. Academic research may usefully explore how different approaches affect the group dynamics, the level of activity within a group, and the processes through which groups arrive at mutual decisions. Such research may also offer a longitudinal perspective on the development of social capital in groups, through conducting repeated social network analyses to capture any change in network configuration over time.

2. Explore good practice in facilitation and provide training suggestions.

The importance of a facilitator is evident; however, there is little evidence of training for facilitators in the farming sector. Further research should assess the requirements for facilitation training, how this may differ from adviser or organisational training already on offer, and the ways in which this may be supported to ensure facilitators can promote collective action in their groups. A transdisciplinary approach, including insights from the fields of education (such as literature on supportive learning environments (de Krom, 2010)) and business (including work which builds on Nahapiet and Ghoshal's (1998) theorisation of the organisational advantage) may be relevant here.

3. Explore the barriers to engagement in a farmer and land manager group further.

Understanding the barriers to participation in farmer and land manager groups may help encourage more people to engage with them. Further research should be conducted with individuals who are not members of a group, to

understand their reasons for not joining. Additional research may be conducted with group members and facilitators to understand how they have encouraged people to join their group, the results of which may be used to provide recommendations for improving engagement. This may include examining how farmers and land managers can be encouraged to reconcile their individual norms and interests with those of the group, for the benefit of positive environmental outcomes.

This research may involve work with historically overlooked farmers and land managers. Engaging with these individuals is likely to require a long-term approach in which trusting relationships are developed and actors are given multiple ways to engage with the research.

4. Continue to develop the social indicators for AES.

This research has shown how essential the development of social capital is in informing knowledge exchange in farmer groups. Future research should build on Mills et al. (2021) social indicators – it is essential measures are developed to ensure that the social factors of AES are no longer overlooked in policy. Such research may explore how the components shown in Figure 3 may be captured in indicators. This is essential as we must understand the social drivers of behaviour change before considering the appropriate mechanisms for environmental change. This will allow approaches to be tailored to a local context, improve their efficacy, and ensure their sustainability.

5. Examine the efficacy of online modes of knowledge exchange.

In recent years there has been an increasing interest in the potential for online forms of knowledge exchange in farming. This research has highlighted that some farmers and land managers may have difficulty trusting knowledge obtained online. There are also implications for the development of social capital if knowledge exchange takes place virtually. If the aim of the knowledge exchange is to prepare farmers and land managers to work collaboratively to deliver environmental aims, this research has shown that online exchange may not have the desired effect. Thus, further research should explore whether online means of knowledge communication, such as websites, social

media and augmented reality do have the potential to improve actors' capacity and willingness to engage in collective behaviours, beyond any individual behaviour change which may be encouraged.

6. Continue to assess the environmental outcomes of farmer and land manager groups.

The findings of this research show that discussions regarding landscape-scale environmental improvements are becoming the norm in CSFF groups. Further research should assess the extent to which this is true in all farmer groups and explore whether, despite the significant challenges faced in land management, this has led to environmental change. Environmental science research may usefully explore the physical evidence of environmental change where groups of farmers and land managers have worked together towards a specific objective. The recently announced LR projects represent ideal case studies. This research should move beyond the current analysis of spatial coordination and consider the wider environmental achievements of such groups.

7.6. Recommendations for policy and practice

The following section provides some key considerations for policymakers and practitioners as we move forward with schemes which contain a commitment to collective action. These are based on common issues discovered in the empirical corpus.

1. Recognise that the social aspects of AES are fundamental to the sustainable delivery of environmental improvements.

The influence of social factors on behaviour and decision-making have been highlighted in academic research for over a decade (Hall, 2008; Mills, 2012; Tsouvalis and Little, 2019). This research has argued that, as there is now an emphasis on cooperation and collaboration, there is the potential for these factors to have an even greater influence. Social factors should therefore be considered during the design of schemes as they can lead to improvements in farmer engagement.

Mills et al. (2021) identify that indicator measures remain important for fostering and monitoring change. They develop a suite of social indicators and suggest that, following further testing, these may be usefully employed by policymakers to assess the quality of AES engagement and improve future schemes. This is important, as the lack of attention to social indicators has hindered the systematic evaluation of social change, which, as this thesis has argued, drives positive environmental change. Where policy does not adequately support positive social change, environmental change will be limited.

Although indicators will be vital in ensuring the social outcomes of AES are not marginalised, greater credibility should also be given to qualitative studies of the effects of social factors on environmental behaviour change. There now exists over two decades of qualitative evidence on the influence of social capital and knowledge exchange on farmer and land manager behaviour and decision-making. Although each of these studies may have been situated in different contexts, there are common conclusions from many, including from this research. These common conclusions from this significant body of literature should be considered in future policymaking, as these qualitative results add to our understanding of how people interpret and interact with the policies developed for them.

2. Retain a commitment to understanding the appropriate mechanisms for collective action and recognize that they will require sufficient time, funding and flexibility.

Recognise the length of time required to build social capital in preparation for individuals to work together as part of a group. The exact amount of time will depend on pre-existing levels of social capital within a group; however, this could take as long as a decade. This has been demonstrated in previous work (Mills et al*.,* 2011; Prager, 2022) and reiterated by participants throughout this research. The Midlands Farmers' submission of another application after already receiving six years' funding (including a no-cost extension due to Covid-19) suggests that the current term of three years is insufficient. It may seem counterintuitive to provide funding for a longer period; however, where

trusting relationships are developed, and with the support of a skilled facilitator, groups have the potential to reach their collective goals, which will, in the long term, contribute to the landscape-scale recovery required in English landscapes.

This research has shown that the process of group development is as important as the outcome, and it is vital we employ mechanisms through which groups may develop social and intellectual capital to ensure individuals can work together. Policy mechanisms may usefully capitalise on previous schemes which have allowed groups to develop social capital. For example, LR funded projects may be more effective if they are delivered by groups which have existed as CSFF groups or similar prior to implementing the project.

3. Provide facilitation frameworks for practitioners who are working with groups of farmers and land managers.

Nahapiet and Ghoshal (1998: 262) suggest that they have provided a framework of use to practitioners seeking to build stocks of social capital. This research has sought to extend the framework to demonstrate how social and intellectual capital influence actors' preparedness and willingness to participate in collective action. The provision of social indicators, and an understanding of how to develop the facets of social capital and their influence on the potential for collective action, would be a useful addition to facilitator training. Facilitators should be encouraged to support the development of environments in which group members feel confident in contributing to learning and collective action. This may include the provision of activities that have been shown to improve facets of social capital, such as trust and shared language. The reintroduction of a space in which facilitators could share their knowledge with one another, such as that described by Barbara, would allow for critical reflection of good facilitation practice based on previous experiences.

7.7. Final remarks

This thesis has presented the importance of conducting the research at this time, situated the project in the context of academic literature relating to the

aim and research questions, reported on the methodological approach, and presented the findings of the project, before offering an analysis of these findings in the context of the literature reviewed.

This research project was conducted at a time of significant change in agri-environment policy and, unexpectedly, for the ways in which research is conducted. This final chapter has presented the key findings of the research and their implications for research, both theoretical and practical, and for policy and practice.

In summary, the project has argued for a better consideration of social and intellectual capital as fundamental requirements for a group's capacity and willingness to engage in collective AES. The findings support further testing and the application of Mills et al.'s (2021) social indicators to understand the influences on farmers and land managers' decision-making, both at an individual and collective level. Further work could evaluate the potential for the social indicators to be incorporated into the extended framework proposed in Figure 3.

The completion of this project during the Covid-19 pandemic has demonstrated the importance of adaptive research. In addition, it provided an opportunity to examine the advantages and disadvantages of modes of interviewing and how these have changed as a result of the pandemic. This research has demonstrated that, following sufficient preparation, in-person, telephone and virtual interviews can all provide rich empirical data.

Land management discourse is becoming increasingly polarised, thus, it is vital we provide people with opportunities to constructively debate their views and learn from one another. If this does not happen, there is the potential that significant stocks of social and intellectual capital may be lost as people refuse to engage with peers with whom they do not share common views. The success of the CSFF in building these stocks should not be overlooked as we move forward with ELMS and subsequent developments in agricultural policy; however, there are key issues to address, particularly relating to providing support for groups beyond their funded period and overcoming uncertainty in

wider AES developments. That said, the case study groups' progress demonstrates that the landscape-scale approach to AES set out by Lawton et al. (2010) is possible, and that such an approach may deliver environmental improvements, providing projects to do so are adequately funded. To reiterate a point made several times throughout this thesis: social capital and natural capital are interdependent and should be treated as such in policy development. Only then can we develop sustainable approaches to improving the environment at a landscape scale.

Reference List

ADAS, Fera & CCRI (2018) *Countryside Stewardship Facilitation Fund. Monitoring and Evaluation: Phase 1 Interim Report*. Report to Natural England.

Adler, P. and Kwon, S. (2002) Social Capital: Prospects for a new concept. *Academy of Management Review,* **27**(1), pp. 17-40. https://doi.org/10.2307/4134367

Ahnstrom, J., Hockert, J., Bergea, H., Francis, C., Skelton, P. and Hallgren, L. (2009) Farmers and nature conservation: what is known about attitudes, context factors and actions affecting conservation? *Renewable Agriculture and Food Systems*, **24**:1, pp. 38-47. https://doi.org/10.1017/S1742170508002391

Archibald, M., Ambagtsheer, R., Casey, M. and Lawless, M. (2019) Using Zoom Videoconferencing for Qualitative Data Collection: Perceptions and Experiences of Researchers and Participants. *International Journal of Qualitative Methods,* **18**, https://doi.org/10.1177/1609406919874596

Ashley, F. (2021) Accounting for research fatigue in research ethics. *Bioethics,* **35**(3), pp. 270-276. https://doi.org/10.1111/bioe.12829

Baird, J., Jollineau, M., Plummer, R. and Valenti, J. (2016) Exploring agricultural advice networks, beneficial management practices and water quality on the landscape: A geospatial social-ecological systems analysis. *Land Use Policy*, **51**, pp. 236-243. https://doi.org/10.1016/j.landusepol.2015.11.017

Bennett, T., Phillips, P., Sheate, W., Eales, R. & Baker J. (2015) *Countryside Stewardship Facilitation Fund Monitoring and Evaluation Scoping Study*. Final Report to Defra and Natural England, Collingwood Environmental Planning Limited.

Bliss, K., Padel, S., Cullen, B., Ducottet, C., Mullender, S., Rasmussen, I. and Moeskops, B. (2018) Exchanging knowledge to improve organic arable farming: An evaluation of knowledge exchange tools with farmer groups across Europe. *Organic Agriculture,* **9**, pp. 383-398. https://doi.org/10.1007/s13165-018-0238-6

Breyer, J., Medcalf, K., Mills, J., Morse, A., Gaskell, P., Underwood, S. and Kaczor, K. (2020) *Countryside Stewardship Facilitation Fund Phase 3, Final Report*, Report to Natural England. Environment Systems: Aberystwyth.

Brown, P. and Lauder, H. (2000) Human Capital, Social Capital and Collective Intelligence, in Baron, S., Field, J. and Schuller, T. (eds.) *Social Capital: Critical Perspectives,* Oxford: Oxford University Press, pp. 226-242.

Burgess, J., Clark, J. and Harrison, C. (2000) Knowledges in action: an actor network analysis of a wetland agri-environment scheme. *Ecological Economics,* **35**(1), pp. 119-132. https://doi.org/10.1016/S0921-8009(00)00172-5

Burton, R. (2004) Seeing Through the 'Good Farmer's' Eyes: Towards Developing an Understanding of the Social Symbolic Value of 'Productivist' Behaviour. *Sociologia Ruralis,* **44**(2), pp.195-215. https://doi.org/10.1111/j.1467-9523.2004.00270.x

Burton, R., Kuczera, C. and Schwarz, G. (2008) Exploring Farmers' Cultural Resistance to Voluntary Agri-environmental Schemes. *Sociologia Ruralis,* **48**(1), pp. 16-37. https://doi.org/10.1111/j.1467-9523.2008.00452.x

Carr, E. and Worth, A. (2001) The use of telephone interview for research. *Journal of Research in Nursing,* **6**(1), pp. 511-524. https://doi.org/10.1177/136140960100600107

Chayko, M. (2008) *Portable Communities: The social dynamics of online and mobile connectedness,* New York: SUNY.

Chiswell, H. and Wheeler, R. (2016) ‘As long as you’re easy on the eye’: Reflecting on issues of positionality and researcher safety during farmer interviews. *Area,* **48**(2), pp. 229-235. http://www.jstor.org/stable/24812255.

Chiu, C., Hsu, M. and Wang, E. (2006) Understanding knowledge sharing in virtual communities: an integration of social capital and social cognitive theories. *Decision Support Systems*, **42**(3), pp. 1872-1888. https://doi.org/10.1016/j.dss.2006.04.001

Claridge, T. (2004) *Social capital and natural resource management: An important role for social capital?,* unpublished Masters’ thesis, School of Natural and Rural Systems Management, University of Queensland.

Clark, T. (2008) ‘We’re Over-Researched Here!’: Exploring Accounts of Research Fatigue within Qualitative Research Engagements. *Sociology,* **42**(5), pp. 953-970. https://doi.org/10.1177/0038038508094573

Coleman, J. (1988) Social capital in the creation of human capital. *The American Journal of Sociology,* **94**, pp. S95-S120.

Cutress, D. (2020) *Digital disregard and inequality in rural areas,* Farming Connect. Available at: https://businesswales.gov.wales/farmingconnect/news-and-events/technical-articles/digital-disregard-and-inequality-rural-areas . Last accessed 14/12/2022.

Dallimer, M., Stringer, L., Orchard, S., Osano, P., Njoroge, G., Wen, C., Gicheru, P. (2018) Who uses sustainable land management practices and

what are the costs and benefits? Insights from Kenya. *Land Degradation and Development,* **29**(9), pp. 2822-2835. https://doi.org/10.1002/ldr.3001

de Jong, T. (2010) *Linking Social Capital to Knowledge Productivity: An exploratory study on the relationship between social capital and learning in knowledge-productive networks.* Heidelberg: Springer.

de Krom, M. (2017) Farmer participation in agri-environmental schemes: Regionalisation and the role of bridging social capital. *Land Use Policy*, **60**, pp. 352-361. https://doi.org/10.1016/j.landusepol.2016.10.026

Department for Environment, Food and Rural Affairs (2011) *The Natural Choice: Securing the value of nature.* Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/228842/8082.pdf. Last accessed: 14/12/2022.

Department for Environment, Food and Rural Affairs (2018) *A Green Future: Our 25 Year Plan to Improve the Environment.* Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/693158/25-year-environment-plan.pdf. Last accessed: 14/12/2022.

Department for Environment, Food and Rural Affairs (2020a) *Farming for the future: Policy and progress update. February 2020.* Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/868041/future-farming-policy-update1.pdf. Last accessed: 14/12/2022.

Department for Environment, Food and Rural Affairs (2020b) *Countryside Stewardship: An Overview.* Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/996741/Countryside_Stewardship_2020_Overview_leaflet_online.pdf. Last accessed: 14/12/2022.

Department for Environment, Food and Rural Affairs (2020c) *Environmental Land Management tests and trials: Quarterly evidence report, July 2020.* Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/925522/elm-tt-july20.pdf. Last accessed: 14/12/2022.

Department for Environment, Food and Rural Affairs (2020d) *Environmental Land Management tests and trials: Quarterly evidence report, September 2020.* Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/959390/TT_Evidence_Report.pdf. Last accessed: 14/12/2022.

Department for Environment, Food and Rural Affairs (2021a) *Tests and Trials Evidence Report: Schemes for environmental land management, June 2021.* Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/999402/elm-tt-june21.pdf. Last accessed: 14/12/2022.

Department for Environment, Food and Rural Affairs (2021b) *Tests and Trials Evidence Report: Schemes for environmental land management, December 2021.* Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1074779/elm-tt-dec21.pdf. Last accessed: 14/12/2022.

Department for Environment, Food and Rural Affairs (2021c) *Statistical Digest of Rural England: Broadband.* Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/996572/Broadband_June_2021_final_with_cover_page.pdf. Last accessed: 14/12/2022.

DeWalt, K. and DeWalt, B. (2011) *Participant Observation: A Guide for Fieldworkers. Second Edition.* Plymouth: AltaMira Press.

Dooley, E. (2020) An Ethnographic Look into Farmer Discussion Groups through the Lens of Social Learning Theory. *Sustainability,* **12**(18), 7808. https://doi.org/10.3390/su12187808

Dunn, K. (2016) Interviewing, in Hay, I. (ed.) *Qualitative Research Methods in Human Geography. Fourth Edition.* Oxford: Oxford University Press. pp. 149-188.

Emery, S. and Franks, J. (2012) The potential for collaborative agri-environment schemes in England: Can a well-designed collaborative approach address farmers' concerns with current schemes? *Journal of Rural Studies*, 28, pp. 218-231. https://doi.org/10.1016/j.jrurstud.2012.02.004

England, K. (1994) Getting Personal: Reflexivity, Positionality and Feminist Research. *The Professional Geographer,* **46**(1), pp. 80-89. https://doi.org/10.1111/j.0033-0124.1994.00080.x

Ernstson, H., Barthel, S., Andersson, E. and Borgstrom, S. (2010) Scale-crossing brokers and network governance of urban ecosystem services: The case of Stockholm. *Ecology and Society,* **15**(4), Article 28.

Fabricus, C. and Collins, S. (2007) Community-based natural resource management: governing the commons. *Water Policy*, **9**(2), pp. 83-97. https://doi.org/10.2166/wp.2007.132

Ferlander, S. (2007) The importance of different forms of social capital for health. *Acta Sociologica,* **50**(2), pp. 115-128. https://doi.org/10.1177/0001699307077654

Fisher, R. (2013) 'A gentleman's handshake': The role of social capital and trust in transforming information into usable knowledge. *Journal of Rural Studies,* **31**, pp. 13-22. https://doi.org/10.1016/j.jrurstud.2013.02.006

Flanigan, S. and Sutherland, L. (2016) Buying access to social capital? From collaboration to service provision in an agricultural cooperative. *Sociologia Ruralis*, **56**(4), pp. 471-490. https://doi.org/10.1111/soru.12092

Flavian, C., Guinalíu, M. and Jordan, P. (2019), Antecedents and consequences of trust on a virtual team leader. *European Journal of Management and Business Economics*, **28**(1), pp. 2-24. https://doi.org/10.1108/EJMBE-11-2017-0043

Franks, J. (2019) An assessment of the landscape-scale dimensions of land based environmental management schemes offered to farmers in England. *Land Use Policy*, **83**, pp. 147-159. https://doi.org/10.1016/j.landusepol.2019.01.044

Franks, J., Emery, S., Whittingham, M. and McKenzie, A. (2011) *Options for landscape scale collaboration under the UK's Environmental Stewardship Scheme.* Available at: https://eprints.ncl.ac.uk/file_store/production/190684/D47CBB67-8534-4429-B3DE-70B181E998A0.pdf. Last accessed: 14/12/2022.

Franks, J. and Emery, S. (2013) Incentivising collaborative conservation: Lessons from existing environmental Stewardship Scheme options. *Land Use Policy,* **30**(1), pp. 847-862. https://doi.org/10.1016/j.landusepol.2012.06.005

Franks, J., Emery, S., Whittingham, M. and McKenzie, A. (2016) Farmer attitudes to cross-holding agri-environment schemes and their implications for Countryside Stewardship. *International Journal of Agricultural Management*, **5**(4), pp. 78-95.

Gelderblom, D. (2018) The limits to bridging social capital: Power, social context and the theory of Robert Putnam. *The Sociological Review,* **66**(6), pp. 1309-1324.

Glogowska, M., Young, P., and Lockyer, L. (2010) Propriety, process and purpose: considerations of the use of the telephone interview method in an educational research study. *Higher Education,* **62**(1), pp.17-26. https://doi.org/10.1007/s10734-010-9362-2

Gouldner, A. (1960) The norm of reciprocity: A preliminary statement. *American Sociological Review,* **25**, pp. 161-178.

Gray, J. (2011) *At home in the hills: Sense of place in the Scottish Borders,* Oxford: Berghahn Books.

Grootaert, C., Narayan, D., Jones, V. and Woolcock, M. (2004) *Measuring Social Capital: An Integrated Questionnaire.* World Bank Working Paper No. 18, Washington DC: World Bank. http://hdl.handle.net/10986/15033

Groth, T. (2015) *Using the Collective Identity Construct to Examine the Role of a Farmer Occupational Identity in Multi-Functional Landscapes in Australia and the United States.* Ph. D. Thesis, School of Environmental Sciences, Charles Sturt University. Available at: https://researchoutput.csu.edu.au/ws/portalfiles/portal/93100531/Groth_Theresa_thesis.pdf. Last accessed: 14/12/2022.

Hakim, C. (2000) *Research Design: Successful Designs for Social Economics Research.* London: Routledge.

Hall, E. J. B. (2008) *The Role of Social Capital in Farmers' Transitions Towards More Sustainable Land Management.* Ph.D. Thesis, Department of Biological Sciences, University of Essex.

Haraway, D. (1991) *Simians, cyborgs and women: The reinvention of nature.* London: Free Association Books.

Harrowell, E., Davies, T. and Disney, T. (2017) Making Space for Failure in Geographic Research. *The Professional Geographer,* **70**(2), pp. 230-238. https://doi.org/10.1080/00330124.2017.1347799

Hodge, I. and Reader, M. (2007) *Maximising the provision of public goods for future agri-environment schemes*. Land Use Policy Group Final Report, Project Number 15932.

Holt, A. (2010) Using the telephone for narrative interviewing: a research note. *Qualitative Research,* **10**(1), pp. 113–121. https://doi.org/10.1177/1468794109348686

Hurley, P., Hall, J., Lyon, J., Tsouvalis, J., Rose, D. and Little, R. (2020) *Inclusive design of post-Brexit Agri-Environmental Policy: Identifying and engaging the 'Harder to Reach' stakeholders. An Empirical Study.* Universities of Sheffield and Reading.

Hurley, P., Lyon, J., Hall, J., Little, R., Tsouvalis, J., White, V. and Rose, D. (2022) Co-designing the environmental land management scheme in England: The why, who and how of engaging 'harder to reach' stakeholders. *People and Nature,* **4**(3), pp. 744-757. https://doi.org/10.1002/pan3.10313

Ingram, J. (2008) Agronomist-farmer knowledge encounters: an analysis of knowledge exchange in the context of best management practices in England. *Agriculture and Human Values,* **25**, pp. 405-418. https://doi.org/10.1007/s10460-008-9134-0

Ingram, J. (2010) Technical and Social Dimensions of Farmer Learning: An Analysis of the Emergence of Reduced Tillage Systems in England. *Journal of Sustainable Agriculture,* **34**(2), pp. 183-201. https://doi.org/10.1080/10440040903482589

Ingram, J., Gaskell, P., Mills, J. and Short, C. (2013) Incorporating agri-environment schemes into farm development pathways: A temporal analysis of farmer motivations. *Land Use Policy,* **31**, pp. 267-279. https://doi.org/10.1016/j.landusepol.2012.07.007

Inkpen, A. and Tsang, E. (2005) Social Capital, Networks and Knowledge Transfer. *The Academy of Management Review,* **30**(1), pp. 146-165. http://www.jstor.org/stable/20159100

Jacobs, P. (2020) *People, places and relationships – Stories of Social Capital.* Scottish Government: Edinburgh. Available at: https://www.gov.scot/binaries/content/documents/govscot/publications/research-and-analysis/2020/02/people-places-relationships-stories-social-capital/documents/people-places-relationships-stories-social-capital/people-places-relationships-stories-social-capital/govscot%3Adocument/people-places-relationships-stories-social-capital.pdf. Last accessed: 14/12/2022.

Jönsson, H., Michaud, M. and Neuman, N. (2021) What Is Commensality? A Critical Discussion of an Expanding Research Field. *International Journal of Environmental Research and Public Health,* **18**(12), 6235. https://doi.org/10.3390/ijerph18126235

Jones, N., Cao, Y., Adamson, H., Lewis-Reddy, L., Crowe, A. and Hockridge, B. (2020) *Facilitation Fund Phase 2 Evaluation: Final Report, March 2020.* Report to Natural England.

Jorgensen, D. (1989) *Participant Observation: A Methodology for Human Studies.* London: SAGE.

Juntti, M. and Potter, C. (2002) Interpreting and reinterpreting agri-environmental policy: Communication, trust and knowledge in the implementation process. *Sociologia Ruralis*, **42**(3), pp. 215-232. https://doi.org/10.1111/1467-9523.00212

Kindred, D., Berry, P., Kendall, S., Roques, S., Patel, D. and Sylvester-Bradley, R. (2021) *Supporting and Progressing Enhancement of Performance on-Farm: Farm-PEP.* Available at:

https://www.yen.adas.co.uk/sites/default/files/2021-11/OFE21%20Farm-PEP%20v2.pdf. Last accessed: 14/12/2022.

King, N., Horrocks, C. and Brooks, J. (2019) *Interviews in Qualitative Research,* London: SAGE.

Klerkx, L. (2021) Digital and virtual spaces as sites of extension and advisory services research: social media, gaming, and digitally integrated and augmented advice. *The Journal of Agricultural Education and Extension,* **27**(3), pp. 277-286. https://doi.org/10.1080/1389224X.2021.1934998

Kosonen, M. (2008) *Knowledge Sharing in Virtual Communities.* Doctor of Science Thesis, Lappeenranta University of Technology. Available at: https://lutpub.lut.fi/bitstream/handle/10024/42882/isbn9789522146809.pdf?sequence=1&isAllowed=y. Last accessed: 14/12/2022.

Kowalski, A. et al. (2015) The role of bridging organisations in environmental management: examining social networks in working groups. *Ecology and Society*, **20**(2): 16. http://dx.doi.org/10.5751/ES-07541-200216

Lawton, J., Brotherton, P., Brown, V., Elphick, C., Fitter, A., Forshaw, J., Haddow, R., Hilborne, S., Leafe, R., Mace, G., Southgate, M., Sutherland, W., Tew, T., Varley, J. and Wynne, G. (2010) *Making Space for Nature: a review of England's wildlife sites and ecological network.* Report to Defra. Available at: https://webarchive.nationalarchives.gov.uk/ukgwa/20130402170324mp_/http://archive.defra.gov.uk/environment/biodiversity/documents/201009space-for-nature.pdf. Last accessed: 14/12/2022.

Leeuwis, C. (2004). *Communication for Rural Innovation: Rethinking Agricultural Extension.* Oxford: Blackwell Science.

Lejano, R., Ingram, M. and Ingram, H. (2012) *The Power of Narrative in Environmental Network.* London: MIT Press

Levin, D. and Cross, R. (2004) The Strength of Weak Ties You Can Trust: The Mediating Role of Trust in Effective Knowledge Transfer. *Management Science,* **50**(11), pp. 1477-1490. https://www.jstor.org/stable/30047959

Lobe, B., Morgan, D. and Hoffman, K. (2020) Qualitative Data Collection in an Era of Social Distancing. *International Journal of Qualitative Methods,* **19.** https://doi.org/10.1177/1609406920937875

Lobe, B., Morgan, D. and Hoffman, K. (2022) A Systematic Comparison of In-Person and Video-Based Online Interviewing. *International Journal of Qualitative Methods,* **21.** https://doi.org/10.1177/16094069221127068

Lyon, J., Hurley, P., Hall, J., Tsouvalis-Gerber, J., Rose, D. and Little, R. (2020). *Inclusive design of post-Brexit Agri-Environmental Policy: Identifying*

and engaging the 'Harder to Reach' stakeholders. A Quick Scoping Review. The University of Sheffield. https://doi.org/10.15131/shef.data.12506582.v3

Maiwald, K. and Suerig, I. (2020) *Microsociology: A Tool Kit for Interaction Analysis.* London: Routledge.

McCracken, M., Woodcock, B., Lobley, M., Pywell, R., Saratsi, E., Swetnam, R., Mortimer, S., Harris, S., Winter, M., Hinsley, S. and Bullock, J. (2015) Social and ecological drivers of success in agri-environment schemes: the roles of farmers and environmental context. *Journal of Applied Ecology*, **52**, pp. 696-705. https://doi.org/10.1111/1365-2664.12412

McKenzie, A., Emery, S. Franks, J. and Whittingham, M. (2013) FORUM: Landscape-scale conservation: collaborative agri-environment schemes could benefit both biodiversity and ecosystem services, but will farmers be willing to participate? J*ournal of Applied Ecology*, **50**(5), pp. 1275-1280. https://doi.org/10.1111/1365-2664.12122

Mills, J. (2012) Exploring the social benefits of agri-environment schemes in England. *Journal of Rural Studies*, **28**, pp. 612-621. https://doi.org/10.1016/j.jrurstud.2012.08.001

Mills, J., Gibbon, D., Ingram, J., Reed, M., Short, C. and Dwyer, J. (2011) Organising collective action for effective environmental management and social learning in Wales. *The Journal of Agricultural Education and Extension*, **17**(1), pp. 69-83. https://doi.org/10.1080/1389224X.2011.536356

Mills, J., Gaskell, P., Ingram, J., Dwyer, J., Reed, M. and Short, C. (2017) Engaging farmers in environmental management through a better understanding of behaviour. *Agriculture and Human Values,* **34,** pp. 283-299. https://doi.org/10.1007/s10460-016-9705-4

Mills, J., Reed, M., Skaalsveen, K. and Ingram, J. (2019) The use of Twitter for knowledge exchange on sustainable soil management. *Soil Use and Management,* **35**(1), pp. 195-203. https://doi.org/10.1111/sum.12485

Mills, J., Chiswell, H., Gaskell, P., Courtney, P., Brockett, B., Cusworth, G. and Lobley, M. (2021) Developing Farm-Level Social Indicators for Agri-Environment Schemes: A Focus on the Agents of Change. *Sustainability,* **13**(14), 7820. https://doi.org/10.3390/su13147820

Morrison-Smith, S. and Ruiz, J. (2020) Challenges and barriers in virtual teams: a literature review. *SN Applied Sciences,* **2**, 1096. https://doi.org/10.1007/s42452-020-2801-5

Morse, A. (2021) *Collaboration and policy implementation at the local level in Wales: a case-study evaluation of a farmer group in North Wales*. Report for the Wales Centre for Public Policy. Available at: https://www.wcpp.org.uk/wp-

content/uploads/2021/06/Collaboration-and-policy-implementation-at-the-local-level-in-Wales-a-case-study-evaluation-of-a-farmer-group-in-North-Wales.pdf. Last accessed: 14/12/2022.

Moschitz H., Roep D., Brunori G., Tisenkopfs T., (2015) Learning and Innovation Networks for Sustainable Agriculture: Processes of Co-evolution, Joint Reflection and Facilitation. *The Journal of Agricultural Education and Extension*, **21**(1), pp. 1-11. https://doi.org/10.1080/1389224X.2014.991111

Mushtaq, S., Reardon-Smith, K., Cliffe, N., Ostini, J., Farley, H., Doyle, J. and Keally, M. (2017) Can Digital Discussion Support Tools Provide Cost-Effective Options for Agricultural Extension Services? *Information Technologies and International Development,* **13**, pp. 52-68.

Nahapiet, J. and Ghoshal, M. (1998) Social Capital, Intellectual Capital and the Organisational Advantage. *Academy of Management Review,* **23**(2), pp. 242-266. https://doi.org/10.2307/259373

Narloch, U., Pascual, U. and Drucker, A. (2012) 'Collective action dynamics under external rewards: experimental insights from Andean farming communities', World Development, Volume 40, (10), pp. 2096-2107. https://doi.org/10.1016/j.worlddev.2012.03.014

Natural England (2022) *National Character Area Profiles.* Available at: https://nationalcharacterareas.co.uk/. Last accessed 14/12/2022.

Ofcom (2019) *The future of fixed telephone services: Policy positioning statement.* Available at: https://www.ofcom.org.uk/__data/assets/pdf_file/0032/137966/future-fixed-telephone-services.pdf . Last accessed: 14/12/2022.

Ofcom (2020a) *Online Nation 2020 Report.* Available at: https://www.ofcom.org.uk/__data/assets/pdf_file/0027/196407/online-nation-2020-report.pdf. Last accessed: 14/12/2022.

Oltmann, S. (2016) Qualitative Interviews: A Methodological Discussion of Interviewer and Respondent Contexts. *Forum: Qualitative Social Research,* **17**(2). https://doi.org/10.17169/fqs-17.2.2551

Onyx, J. and Bullen, P. (2000) Measuring Social Capital in Five Communities. *The Journal of Applied Behavioral Science,* **36**(1), pp. 23-42. https://doi.org/10.1177/0021886300361002

Ostrom, E. (1990) *Governing the Commons: The Evolution of Institutions for Collective Action.* Cambridge: Cambridge University Press.

Ostrom, E. (1998) A behavioral approach to the rational choice theory of collective action. T*he American Political Science Review*, **92**(1), pp. 1-22. https://doi.org/10.2307/2585925

Ostrom, E. (2000) Collective Action and the Evolution of Social Norms. *The Journal of Economic Perspectives*, **14**(3), pp. 137-158. https://www.jstor.org/stable/2646923

Ostrom, E. (2010) Analysing collective action. *Agricultural Economics,* **41**(s1), pp. 155-166. https://doi.org/10.1111/j.1574-0862.2010.00497.x

Ostrom, E. and Ahn, T. (2001) *A social science perspective on social capital: social capital and collective action* presented at Social Capital: Interdisciplinary Perspectives, Exeter, UK, 15-20 September.

Peel, E., Parry, O., Douglas, M. and Lawton, J. (2006) 'It's no skin off my nose': Why People Take Part in Qualitative Research. *Qualitative Health Research,* **16**(10), pp. 1335-1349. https://doi.org/10.1177/1049732306294511

Phillips, M. (2016) Assets and affect in the study of social capital in rural communities. *Sociologia Ruralis*, **56**(2), pp. 220-247.

Phillips, T., McEntee, M. and Klerkz, L. (2021) An investigation into the use of social media for knowledge exchange by farmers and advisors. *Rural Extension and Innovations Systems Journal,* **17**(2), pp. 1-13.

Polman, N. and Slangen, L. (2008) Institutional design of agri-environment contracts in the European Union: The role of trust and social capital. *NJAS – Wageningen Journal of Life Sciences*, **55**(4), pp. 413-430. https://doi.org/10.1016/S1573-5214(08)80029-2

Portes, A. (1998) Social Capital: Its Origins and Applications in Modern Sociology. *Annual Review of Sociology,* **24**, pp. 1-24. https://doi.org/10.1146/annurev.soc.24.1.1

Prager, K. (2015) Agri-environmental collaboratives for landscape management in Europe. *Current Opinions in Environmental Sustainability*, **12**, pp. 59-66. https://doi.org/10.1016/j.cosust.2014.10.009

Prager, K. (2022) Implementing policy interventions to support farmer cooperation for environmental benefits. *Land Use Policy,* **119**, 106182. https://doi.org/10.1016/j.landusepol.2022.106182

Prager, K., Reed, M. and Scott, A. (2012) Encouraging collaboration for the provision of ecosystem services at a landscape scale – rethinking agri-environmental payments. *Land Use Policy*, **29**(1), pp. 244-249. https://doi.org/10.1016/j.landusepol.2011.06.012

Prell, C., Hubacek, K. and Reed, M. (2009) Stakeholder analysis and social networks in natural resource management. *Society and Natural Resources*, **22**(6), pp. 501-518. https://doi.org/10.1080/08941920802199202

Pretty, J. and Ward. H. (2001) Social Capital and the Environment. *World Development,* **29**(2), pp. 209-227. https://doi.org/10.1016/S0305-750X(00)00098-X

Putnam, R. (1995) Bowling Alone: America's Declining Social Capital. *Journal of Democracy,* **6**(1), pp. 65-78.

Rahman, S., Tuckerman, L., Vorley, T. and Gherhes, C. (2021) Resilient Research in the Field: Insights and Lessons From Adapting Qualitative Research Projects During the COVID-19 Pandemic. *International Journal of Qualitative Methods,* **20.** https://doi.org/10.1177/16094069211016106

Raymond, C., Reed, M., Bieling, C., Robinson, G. and Plieninger, T. (2016) Integrating different understandings of landscape stewardship into the design of agri-environmental schemes. *Environmental Conservation*, **43**(4), pp. 350-358. https://doi.org/10.1017/S037689291600031X

Reed, M., Evely, A., Cundill, G., Fazey, I., Glass, J., Laing, A., Newig, J., Parrish, B., Prell, C., Raymond, C. and Stringer, L. (2010) What is social learning? *Ecology and Society*, **15**(4), [R1]. http://www.ecologyandsociety.org/vol15/iss4/resp1/

Riley, M. (2016) How does longer term participation in agri-environment schemes [re]shape farmers' environmental dispositions and identities? *Land Use Policy*, **52**, pp. 62-75. https://doi.org/10.1016/j.landusepol.2015.12.010

Riley, M., Sangster, H., Smith, H., Chiverrell, R. and Boyle, J. (2018) Will farmers work together for conservation? The potential limits of farmers' cooperation in agri-environment measures. *Land Use Policy,* **70**, pp. 635-646. https://doi.org/10.1016/j.landusepol.2017.10.049

Roberts, K. (1999) An analysis of group processes in farmer learning: the Australian experience. *The Journal of Agricultural Education and Extension,* **6**, pp. 235-244. https://doi.org/10.1080/13892240085300061

Rural Payments Agency (2022) *Countryside Stewardship Facilitation Fund: manual for agreements starting on 1 June 2022.* Available at: https://assets.publishing.service.gov.uk/media/61b87efde90e070449d49f90/CSFF_-_manual_for_agreements_starting_on_1_June_2022_v4.0.pdf. Last accessed: 14/12/2022.

Rust, N., Ptak, E., Graversgaard, M., Iversen, S., Reed, M., de Vries, J., Ingram, J., Mills, J., Neumann, R., Kjeldsen, C., Muro, M. and Dalgaard, T. (2020) Social capital factors affecting uptake of sustainable soil management practices: a literature review [version 2; peer review: 2 approved]. *Emerald Open Research*, **2**(8) https://doi.org/10.35241/emeraldopenres.13412.2

Rust, N., Stankovics, P., Jarvis, R., Morris-Trainor, Z., de Vries, J., Ingram, J., Mills, J., Glikman, J., Parkinson, J., Toth, Z., Hansda, R., McMorran, R., Glass, J. and Reed, M. (2022) Have farmers had enough of experts? *Environmental Management,* **69**, pp. 31-44. https://doi.org/10.1007/s00267-021-01546-y

Ruxton, M., Heiden, E., Begum, N., Losch, M. (2019) *Understanding farmer and landowner decision-making and message preference concerning conservation practice adoption in the Clear Creek Watershed*. University of Northern Iowa, Center for Social and Behavioural Research.

Scott. J. and Marshall, G. (2009) *A Dictionary of Sociology.* Oxford: Oxford University Press.

Scriven, R. (2018) Journeying with: Qualitative methodological engagements with pilgrimage. *Area*, **50**(1), pp. 1-10. https://doi.org/10.1111/area.12498

Short, C., Breyer, J., James, N., Morse, A., Raseta, S., Lewis, N., Mills, J., Grant, M., Yandell-Thomas, M. and Medcalf, K. (forthcoming) *Countryside Stewardship Facilitation Fund – Monitoring and Evaluation Phase 4.* Final Report, Report to Defra. Cheltenham: Countryside and Community Research Institute.

Simons, H. (2009) *Case Study Research in Practice.* London: SAGE.

Skaalsveen, K., Ingram, J. and Urquhart, J. (2020) The role of farmers' social networks in the implementation of no-till farming practices. *Agricultural Systems,* **181,** 102824. https://doi.org/10.1016/j.agsy.2020.102824

Sligo, F. and Massey, C. (2007) Risk, trust and knowledge networks in farmers' learning. *Journal of Rural Studies*, **23**(2), pp. 170-182. https://doi.org/10.1016/j.jrurstud.2006.06.001

Stake, R. (1998). Case Studies. in: Denzin, N. and Lincoln, Y. (eds.) *Strategies of Qualitative Inquiry*. London: SAGE, pp. 86-109.

Stephens, N. (2007) Collecting data from elites and ultra elites: Telephone and face-to-face interviews with macroeconomists. *Qualitative Research*, **7**(2), pp. 203-216. https://doi.org/10.1177/1468794107076020

Striukova, L. and Rayna, T. (2008) The Role of Social Capital in Virtual Teams and Organisations: Corporate Value Creation. *International Journal of Networking and Virtual Organisations,* **5**(1), pp. 103-119.

Sultana, F. (2017) 'Reflexivity' in Richardson, D. et al. (eds) *The International Encyclopaedia of Geography: People, the Earth, Environment and Technology*, Chichester: John Wiley and Sons.

Sutherland, L. and Burton, R. (2011) Good farmers, good neighbours? The role of cultural capital in social capital development in a Scottish farming community. *Sociologia Ruralis*, **51**(3), pp. 238-255. https://doi.org/10.1111/j.1467-9523.2011.00536.x

Sutherland, L. and Darnhofer, I. (2012) Of organic farmers and 'good farmers': Changing habitus in rural England. *Journal of Rural Studies*, **28**, pp. 232-240. https://doi.org/10.1016/j.jrurstud.2012.03.003

Sutherland, L., Mills, J., Ingram, J., Burton, R., Dwyer, J. and Blackstock, K. (2013) Considering the source: Commercialisation and trust in agri-environmental information and advisory services in England. *Journal of Environmental Management,* **118**, pp. 96-105. https://doi.org/10.1016/j.jenvman.2012.12.020

Svendsen, G. (2006) Studying social capital *in situ*: A qualitative approach. *Theory and Society,* **35**, pp. 39-70. https://doi.org/10.1007/s11186-006-6780-3

Swanwick, C., Hanley, N. and Termansen M. (2007) *Scoping study on agricultural landscape valuation.* Final report to Defra. Sheffield: University of Sheffield.

Thomas, E., Riley, M. and Smith, H. (2019) A flowing conversation? Methodological issues in interviewing farmers about rivers and riparian environments. *Area,* **51**(2), pp. 371-379. https://doi.org/10.1111/area.12507

Thomas, E., Riley, M. and Spees, J. (2020) Knowledge flows: Farmers' social relations and knowledge sharing practices in 'Catchment Sensitive Farming. *Land Use Policy,* **90,** 104254. https://doi.org/10.1016/j.landusepol.2019.104254

Trier-Bieniek, A. (2012) Framing the telephone interview as a participant-centred tool for qualitative research: a methodological discussion. *Qualitative Research,* **12**(6), pp. 630-644. https://doi.org/10.1177/1468794112439005

Tsang, E. (2014) Generalising from Research Findings: The Merits of Case Studies. *International Journal of Management Reviews,* **16**, pp. 369-383. https://doi.org/10.1111/ijmr.12024

Tsouvalis, J. and Little, T. (2019) *Factors Influencing Farmer Participation in Agri-Environment Schemes (AES) - Evidence from the Social Sciences.* Available at: https://figshare.shef.ac.uk/articles/report/Factors_Influencing_Farmer_Participation_In_Agri-Environment_Schemes_AES_Evidence_From_The_Social_Sciences/11569149/1. Last accessed: 14/12/2022.

Urquhart, J., Accatino, F., Appel, F., Antonoili, F., Berry, R., Bertolozzi, D.... and Zawalinkska, K. (2019) *Report on farmers' learning capacity and networks of influence in 11 European case studies*, SUREFarm Report D2.3.

van Dijk, W., Lokhorst, A., Berendse, F. and de Snoo, G. (2015) Collective agri-environment schemes: How can regional environmental cooperatives enhance farmers' intentions for agri-environment schemes? *Land Use Policy*, **42**, pp. 759-766. https://doi.org/10.1016/j.landusepol.2014.10.005

Ward, K., Gott, M. and Hoare, K. (2015) Participants' views of telephone interviews within a grounded theory study. *Journal of Advanced Nursing,* **71**(12), pp. 2775-2785. https://doi.org/10.1111/jan.12748

Westerink, J., Pleijte, M., Schrijver, R., van Dam, R., de Krom, M. and de Boer, T. (2021) Can a 'good farmer' be nature-inclusive? Shifting cultural norms in farming in The Netherlands. *Journal of Rural Studies,* **88**, pp. 60-70. https://doi.org/10.1016/j.jrurstud.2021.10.011

White, O., Ealrs, R., Baker, J., Sheate, W., Twigger-Ross, C., Sadauskis, R., Papadopoulou, L/. Bennet, T., Horton, B. and Hill, C. (2015) *Monitoring and Evaluation of Nature Improvement Areas: Final Report (2012-2015).* Defra Research Project WC1061. Available at: https://randd.defra.gov.uk/ProjectDetails?ProjectID=18555&FromSearch=Y&Publisher=1&SearchText=WC1061&SortString=ProjectCode&SortOrder=Asc&Paging=10#Description. Last accessed: 14/12/2022.

Wilson, V. and Edwards, L. (2003) Telephone interviewing in educational settings. *Spotlights: The Scottish Research Council for Research in Education*, **84**, pp. 1-4.

Woolcock, M. (2001) The place of social capital in understanding social and economic outcomes. *Canadian Journal of Policy Research,* **2**(1), pp. 11-17.

Wynne-Jones, S. (2017) Understanding farmer co-operation: Exploring practices of social relatedness and emergent affects. *Journal of Rural Studies*, **53**, pp. 259-268. https://doi.org/10.1016/j.jrurstud.2017.02.012

Yang, L., Holtz, D., Jaffe, S., Suri, S., Sinha, S., Weston, J., Joyce, C., Shah, N., Sherman, K., Hecht, B. and Teevan, J. (2022) The effects of remote work on collaboration among information workers. *Nature Human Behaviour,* **6**, pp. 43-54. https://doi.org/10.1038/s41562-021-01196-4

Yin, R. (2014) *Case Study Research: Design and Methods, 5th Edition.* London: SAGE.

APPENDICES

Appendix A – Interview Schedule

General information

Can you tell me more about your farm?
Type, size, history, generation, farm lifecycle stage, who's who, approx. income.

For facilitators: can you tell me a bit more about the group? Do you have a contact telephone number for everyone in your group (to assess whether all group members have access to a mobile or landline telephone).

Network ties and configuration

Can you describe your close networks - family and individuals with whom you speak regularly? [Bonding capital]

How often do you speak with these people?

How did you come to join the CSFF group? [Group details, bonding/bridging capital]

Did you know the facilitator before joining? [Facilitator details, bridging capital]

Do they understand your requirements?
How would you describe their role in the group - do they facilitate relationships?
How often do you speak with them?

Can you describe the CSFF group? [Network ties, configuration, group identity and norms]

How often do you speak with your group members? [Network ties and configuration]

Can you describe any groups you're part of beyond the CSFF? [Bridging capital]

Can you briefly outline your relationships with other significant individuals with whom you may speak on a more irregular basis, for example, advisors, government officials? [Linking capital]

Work with the group - cognitive and relational dimensions

Have you had AES agreements in the past? [Potential behaviour change – norms, obligations]

Do you have a current CS agreement? [Potential behaviour change – norms, obligations]

What motivated you to join the CSFF? [Norms, obligations]

Do you share these motivations with other group members? [Shared codes, narratives, identification]

What has the main benefit of joining been?

Do you feel you belong? [Identification and belonging]

How are decisions made? [Norms, power]

Do you feel you can contribute to the decision-making process?

Are you aware of the groups goals? [Shared language]

Are others? Is there a shared purpose? [Shared narrative]

How are the goals communicated?

How does being part of the group compare with individual environmental management? [Behaviour change - norms, reciprocity, identification]

Has it changed your attitude towards the environment and AES?

Has it changed your attitude towards production?

Do you believe working together will help you better achieve environmental objectives?

Is there anything you particularly value about being part of a group?

Have there ever been any barriers to the group's progress? [Trust, reciprocity, shared language/narrative]

What have they been and what were their impacts?

Focus on changes as a result of Covid - has moving online had an impact on support and relationships?

Are you working more closely with other members? [Network ties + configuration, trust, norms, obligations]

Do you feel more comfortable working with them now, than you did at the start of the group's funding?

Do you help people in your group more than you did before the group received funding?

Do you think these people would be willing to assist you in tasks / emergencies?

Do you socialise with these individuals outside of group events/work?

Would you recommend membership of the group?

Would you say your group members can be trusted? [Trust]

Please elaborate.

Have levels of trust improved since the group began?

What were the impacts of taking events and meetings online? [Online vs. offline issues]

To what extent do you trust people in the local area who are not part of the group? [Trust]

Have you developed relationships with other people outside the group, for example, in NGOs, government bodies etc...? [Trust]

To what extent do you trust people in other CSFF / farming groups?

To what extent do you trust people in NGOs?

To what extent do you trust government agencies?

Have you engaged with the public at all? [Linking capital]

Please elaborate.

Do you feel the work you have carried out so far has been valued by the public?

Have any of the relationships we've just been talking about changed as a result of the last year (this could be Covid related or to do with changes in policy). [Network ties and configuration, impact of virtual communication, trust]

What happened?

Has this changed how you farm or how you feel about working collaboratively at all?

Has meeting online had an impact? Has it been more difficult to establish trust through regular communication?

Have you communicated in other ways, for example, through online messaging?

Have there ever been any negative occasions in the group as a result of differing opinions?

Learning and knowledge exchange

What are the most important sources of information to you? [Access to parties for combining/exchanging capital]

Why is this?

How often do you access this information?

How often have you had events with experts? [Access, value, motivation]

If online/offline - what are the main differences between these online and in-person events? Which would you prefer to attend and why?

How valuable have these events been?

What have you learned?

Has everyone contributed to discussions in these events?

Do you feel more comfortable sharing your knowledge as a result of developing working relationships with your group members? [Trust, motivation]

Have you had any opportunities for informal interactions with others in the group, for example, dinners?

Has anyone ever approached you for advice on a specific matter? [Changing norms, reciprocity]

Do you think knowledge is best shared by 'doing' or can it be shared verbally/online? [Forms of knowledge and learning, impact of virtual communication]

Environmental and collective action

Can you briefly describe how your attitude to AES/sustainable farming practices has changed over time (if at all)? [Changing norms and attitudes, willingness and capacity to engage in new *individual* practices (for benefit of group – coordination)]

Why is this?

Have you changed any of your practices as a direct result of being part of this CSFF group? [Potential environmental impact, changing norms]

What and why? (Through social pressure or intrinsic motivation?)

How have others reacted to these changes?

How does it feel to be making changes (or not) in the current climate?

Have you, or others in the group, got any plans to implement changes together? [Motivation for collective action (norm of cooperation and reciprocity), changing behaviour – willingness to engage, capacity to engage]

Can you explain the impacts of the last 18 months on any group plans to work together? [Social capital development]

Do you think your group is as effective as it could have been as a result of the last 18 months? [Relational and cognitive]

Would you have done something like this regardless of group membership?

Have you had to make any sacrifices as a result?

Did you have any influence over the design of this group activity?

If people are against working together, how does the group respond? [Norms, attitudes, reciprocity]

Have people changed their minds as a result of the group's response?

Have you received any external support for LS scale activities? [Linking capital, motivation + capacity to engage]

If yes, from whom and for what?

Do you feel that working collectively offers you more power in decision/policy-making processes? [Identification, norms, power, motivation]

Has this work changed how you see your role in the bigger picture?

Would you like to continue working with the group when your funding finishes? [Identification, norms, potential future impacts/collective action].

Are there any benefits which you haven't yet mentioned which are encouraging you to stay?

Do you have any final comments on the last 18 months? [Impact of virtual communication, knowledge exchange, trust, identification, motivation]

Particularly relating to group events or meetings moving online and how this has effected your relationships with other group members?

Are there any final comments you'd like to make about the CSFF, your group, or AES more generally?

Appendix B – Participant Details

Table 5: Participant details

Name(s)	Identifier	Group	Role (including self ID for group members)
Maria	NF-F	Northern Farmers	Facilitator
Arthur	NF-M1	Northern Farmers	Group member, farmer
Fred	NF-M2	Northern Farmers	Group member, farmer
Oliver	NF-M3	Northern Farmers	Group member, farmer
George	NF-M4	Northern Farmers	Group member, smallholder
Thomas	NF-M5	Northern Farmers	Group member, hobby farmer
Rosie	NF-M6	Northern Farmers	Group member, landowner
Owen	NF-M7	Northern Farmers	Group member, land agent
Freya	NF-P	Northern Farmers	Group partner, employed by an environmental NGO
Debbie	EF-F	East Farmers	Facilitator at time of data collection
John	EF-M1	East Farmers	Group member, landowner
Stephen	EF-M2	East Farmers	Group member, farmer
Lewis	EF-M3	East Farmers	Group member, farmer
James	EF-M4	East Farmers	Group member, farmer
Ava	EF-M5	East Farmers	Group member, landowner

Sophie	EF-P	East Farmers	Group partner, environmental consultant
Emily	WF-F	West Farmers	Facilitator at time of data collection
Olivia	WF-M1	West Farmers	Group member, quarry employee
Henry and Eliza	WF-M2	West Farmers	Group members, farmers
William	WF-M3	West Farmers	Group member, landowner and conservationist
Jack	WF-M4	West Farmers	Group member, farmer
Ross	WF-P	West Farmers	Group partner, employed by an environmental NGO
Barbara	MF-F	Midlands Farmers	Facilitator
Ben	MF-M1	Midlands Farmers	Group member, farmer
Darren	MF-M2	Midlands Farmers	Group member, farmer
Michael and Esme	MF-M3	Midlands Farmers	Group members, farmers
Daniel	MF-M4	Midlands Farmers	Group member, farmer
Grace	MF-M5	Midlands Farmers	Group member, landowner
Chloe	MF-P	Midlands Farmers	Group partner, arm's length body