

Master's Thesis
Environmental Management

**Communication in bottom-up
Agri-environmental projects: Problems,
Influences and Suggestions**

By
Sara Jones

First Reviewer: Prof. Dr. Uwe Rammert
Second Reviewer: Prof. Dr. Hartmut Roweck

Department of Ecology
Faculty of Agricultural and Nutritional Sciences
Faculty of Mathematics and Natural Sciences
Of the Kiel University

Contents

| | | |
|-------|--|----|
| 1 | Abstract..... | 1 |
| 2 | Introduction | 2 |
| 2.1 | General Background..... | 2 |
| 2.2 | Research Problem | 2 |
| 2.3 | The importance of Agri-Environmental measures..... | 3 |
| 2.4 | Bottom-up and top-down structural organisations..... | 4 |
| 2.4.1 | Top-down..... | 4 |
| 2.4.2 | Bottom-up..... | 5 |
| 2.4.3 | Grass-roots | 6 |
| 2.5 | Top-down versus bottom-up: Differences in structure and implementation..... | 6 |
| 2.6 | Public participation: Introducing a bottom-up element into top-down initiatives | 9 |
| 2.7 | Terms and vocabulary within the context of this thesis | 9 |
| 2.8 | Communication | 10 |
| 2.8.1 | Environmental Communication..... | 12 |
| 2.9 | Communication problems | 14 |
| 2.9.1 | Incentive | 14 |
| 2.9.2 | Information availability and relevancy..... | 15 |
| 2.9.3 | Problems with the roles of different stakeholder groups within bottom-up agri-environmental projects | 16 |
| 2.9.4 | Trust and Relationships | 19 |
| 2.9.5 | Preconceptions and misconceptions | 20 |
| 2.9.6 | Working language barriers..... | 20 |
| 2.9.7 | Collaboration and Cooperation..... | 21 |
| 3 | Methodology..... | 24 |
| 3.1 | Selecting project examples | 24 |
| 3.2 | Data collection: Interviews..... | 27 |
| 3.2.1 | Interview Template..... | 29 |
| 3.2.2 | Transcriptions..... | 31 |
| 3.3 | Content Analysis | 33 |
| 4 | Results and Discussion | 35 |
| 4.1 | Example project Profiles | 35 |
| 4.1.1 | Odling i Balans – Farming in Balance | 35 |
| 4.1.2 | Weidelandschaft Eidertal – Pasture landscape Eider Valley | 36 |
| 4.1.3 | Latvian Example..... | 37 |

| | | |
|--------|---|-----|
| 4.2 | The Code Template..... | 38 |
| 4.2.1 | The Code Template | 41 |
| 4.2.2 | Super-themes | 44 |
| 4.2.3 | Themes..... | 46 |
| 4.2.4 | Codes..... | 48 |
| 4.2.5 | Relationships of codes and themes | 48 |
| 4.3 | The Themes: Definitions and Discussion of examples | 50 |
| 4.3.1 | Inter-stakeholder group relations problems..... | 51 |
| 4.3.2 | The inter-stakeholder group Language Barrier | 57 |
| 4.3.3 | Scientific cultural problems..... | 61 |
| 4.3.4 | Traditional role problems | 67 |
| 4.3.5 | Policy and legislation problems..... | 72 |
| 4.3.6 | Intra-stakeholder group communication problems..... | 76 |
| 4.3.7 | Example specific problems, project priorities and factors/ processes that promote successful communication..... | 79 |
| 4.4 | The Suggestion codes..... | 82 |
| 4.4.1 | Communication rectification (Two-Way communication)..... | 83 |
| 4.4.2 | Target Audience based Communication | 85 |
| 4.4.3 | Bridging Role Gaps | 86 |
| 4.4.4 | Role redefinition and reallocation | 89 |
| 4.4.5 | Predefined structural organisation | 91 |
| 4.4.6 | Education | 92 |
| 4.4.7 | Positive Press | 94 |
| 4.4.8 | Giving recognition and credit | 95 |
| 4.4.9 | Empowerment | 97 |
| 4.4.10 | Trust building..... | 98 |
| 4.4.11 | Networking..... | 101 |
| 4.4.12 | Collaboration and Cooperation..... | 102 |
| 4.4.13 | Incentive provision and raising awareness of available incentives..... | 103 |
| 4.4.14 | Youth outreach..... | 113 |
| 4.4.15 | Policy and legislation rectification..... | 113 |
| 4.4.16 | General future suggestions | 115 |
| 4.5 | Top-down and Bottom-up projects..... | 116 |
| 4.6 | Mind-set..... | 117 |
| 4.7 | Types of Communication important to bottom-up Initiatives | 118 |

| | | |
|-----|--|-----|
| 4.8 | Differences in Projects and problems of projects dependent on Country..... | 119 |
| 5 | Conclusions..... | 120 |
| 6 | Acknowledgements..... | 121 |
| 7 | References..... | 123 |
| | Declaration | 127 |

1 Abstract

The aim of this thesis was to identify and investigate problems in communication and areas in which communication problems occur in bottom-up agri-environmental initiatives. Factors affecting communication were identified and suggestions were put forward to rectify problems or to promote successful communication processes. In order to do this qualitative data was collected through interviews with expert representatives from carefully chosen, successful agri-environmental initiatives in the Baltic Sea Region. This was then analysed using template analysis. The results are presented as a discussion of the problems or areas in which problems occur, the factors affecting them, and the inter-relations between them. Selected relationships were illustrated in conceptual diagrams to give the reader an overview of the complex interdependencies and feedback loops that exist between communication problems and those factors and conditions which affect them, or indeed, by which they are affected.

2 Introduction

2.1 General Background

The results of this thesis will be included in a Handbook of Communication published by the Baltic COMPACT project (<http://www.balticcompass.org/>), in the hopes that they can be applied to current projects as well as projects that are still in the planning phases. In this way it is hoped that common communication problems can be avoided or rectified, and good, well-structured communicational processes can be implemented. The handbook will be made freely available and distributed widely and thoroughly to farmers, land-owners and communities who could benefit from the guidelines within it.

2.2 Research Problem

Projects and Initiatives within the environmental sector are driven and implemented following either a top-down or bottom-up structural framework. Both structures are intrinsically linked to and based on communication, as communication is an integral part of human existence (Jurin et al. 2010). This makes communication an important part of the process of providing the world with environmental solutions, and, despite the fact that communication is an inherent social interaction and basic characteristic of our humanity (Jurin et al. 2010), it has in the past often been overlooked. Recently there has been an increased interest in the part communication plays within the environmental sector, with most research concentrating on communication within the policy-making process, which is an intrinsically top-down orientated process. This study aims to provide insight into the communication processes within bottom-up orientated agri-environmental initiatives, identifying common problems in communication or areas in which communication problems occur, factors affecting successful communication and providing some suggestions to promote successful communication.

2.3 The importance of Agri-Environmental measures

Agriculture is essential for food production to sustain the world's population. As the global population increases so do the demands on agriculture, and agriculture's negative impacts on the environment (Uetake et al. 2013). In the face of climate change and global population increase the need to reduce negative externalities of agriculture on the environment is paramount (Uetake et al. 2013).

Agriculture is not however, just food production. As important as agriculture's task of the provision of food, is its provision of public goods and environmental services such as: maintaining the landscape, biodiversity, clean water, clean air and recreational activities such as agri-tourism, as well as much more (Uetake et al. 2013).

Agri-environmental initiatives or projects aim to address the reduction of negative agricultural impacts on the environment, and to focus on the production of these environmental services, through the collaboration of stakeholders co-operating to reach a shared objective.

This collaboration and co-operation between stakeholders requires communication. Communication is defined as an *exchange* of information (Oxford Dictionaries 2013) a two-way flow of information, in which the receiver is not passive but also an active provider of information (Janse 2006).

During his involvement in the Baltic COMPASS project Prof. Dr. Uwe Rammert identified the importance of communication within agri-environmental initiatives. Communication is an integral and essential part of agri-environmental projects, the presence or absence of good communication processes will have a great influence on the efficiency and success of a project (U. Rammert, 2013, pers. comm.) Therefore it is important to fully understand major communication problems, areas in which communication problems occur, solutions and factors that affect communication within bottom-up agri-environmental initiatives, which this thesis aims to do.

2.4 Bottom-up and top-down structural organisations

Agri-environmental projects, like all projects, adhere to an organisational structure by which objectives are defined, resources managed and the aims of the project are carried out. There are two main organisational structures under which agri-environmental projects are governed, they can be structured top-down or bottom-up (Rammert 2012).

Although there have been many debates as to which system has more merit, it seems that when delving into the literature authors assume that, as the terms have been in use for a long period of time, they have not seen the need to fully define either in the literature. This has led to some ambiguity in the definitions of top-down and bottom-up organisation, which seems to have been further compounded by the introduction of the term “grassroots” and the adoption of both “bottom-up” and “grassroots” as major buzzwords within the Environmental community.

Without a clear definition of what constitutes a bottom-up initiative, many projects adopt the term within their descriptions and aims, however upon closer inspection are entirely top-down and top-driven initiatives, as was experienced during data collection for this thesis. This is in agreement with studies which state that it is often hard to distinguish between top-down and bottom-up approaches as there is no clear line of distinction between the two (Garcia-Lopez 2013).

Therefore I would like to provide definitions for the terms “top-down”, “bottom-up” and “grass-root”, so as to clarify the definitions of the organisational classification systems that will be referred to in this thesis.

The following section contains quoted dictionary definitions of the terms; three different dictionaries were consulted in order to ensure clarity. This is followed by a definition of each term in the context of the structural organisation of agri-environmental projects which was then created, based on these definitions.

2.4.1 Top-down

“Controlled, directed, or instituted from the top level.” (Merriam-Webster Dictionary 2013).

“Denoting a system of government or management in which actions and policies are initiated at the highest level; hierarchical: a top-down managerial philosophy and practice.” (Oxford Dictionaries 2013).

“1. Of or relating to a hierarchical structure or process that progresses from a large, basic unit to smaller, detailed subunits: *a top-down description of the department's function*. 2. Commanded by or originating from ones having the highest rank.” (The American Heritage Dictionary of the English Language 2013).

Top-down structural organisation- Therefore an agri-environmental project with a top-down organisational approach follows a typical hierarchical structure where commands, initiative and decisions are made by those with the highest rank, and are carried out at and implemented at ground level by those with the lowest rank. Projects arranged in this manner are top-driven.

2.4.2 Bottom-up

“Progressing upward from the lowest levels: controlled or directed from the lower levels.” (Merriam-Webster Dictionary 2013).

“Proceeding from the bottom or beginning of a hierarchy or process upwards; non-hierarchical: *bottom-up decisions*.” (Oxford Dictionaries 2013).

“Progressing from small or subordinate units to larger or more important units, as in an organization or process.” (The American Heritage Dictionary of the English Language 2013).

Bottom-up structural organisation- Therefore in a project which follows a bottom-up approach, the instigation of a project originates at the bottom, from those whom within a top-down system are considered the lowest ranking. These initiatives are structured in such a way that those who implement the objectives at ground level are the same as those who define the goals and aims and make the decisions. These projects are driven from the bottom.

2.4.3 Grass-roots

“1. Basic, fundamental. 2 Being, originating, or operating in or at the grass roots” (Merriam-Webster Dictionary 2013).

“The most basic level of an activity or organization: ordinary people regarded as the main body of an organization’s membership” (Oxford Dictionaries 2013).

“1. People at a local or low level rather than at the center or upper levels of an organization or movement. 2. The lowest or most basic level of an organization or movement” (The American Heritage Dictionary of the English Language 2013).

Grass-roots- Therefore a grass-roots environmental initiative is one that is driven by a community (ordinary people) at a local scale. Thus within the scope of this thesis grass-roots and bottom-up, although similar, refer to slightly different organisational structures. Where a bottom-up approach does not have to be at a local level, it will involve those who work at the implementation-level and are therefore very aware of local conditions in their respective areas.

2.5 Top-down versus bottom-up: Differences in structure and implementation

Top-down projects are often characterised with problems when those in more influential positions make decisions without fully grasping the implications of such decisions at implementation-level (Sabatier 1986). This can result in frustration if there is no or little opportunity for those tasked with actions to provide feedback or be involved in decision making at all. The implementation-level personnel are fully acquainted with the local conditions and challenges regarding implementation; they could have important feedback in order to render objectives better suited to the location and situation, as well as increase efficiency of implementation (Rammert 2012; U. Rammert, 2013, pers. comm.). It must be noted however that the top-down approach is also known to be efficient, and the approach most commonly applied to agri-environmental projects and environmental projects in general (U. Rammert, 2013, pers. comm.).

The top-down structure of policy and decision making means that policies and directives, that are part of the legal prescriptions towards environmental management and protection, are designed and outlined by politicians and decision-makers who are not necessarily personally acquainted with all the facets of every area in which these prescriptions will be implemented (Reed 2008). For example, EU policies need to be implemented in countries that often differ highly in climate, landscape, culture, agricultural practices, economic situation and environmental problems. Apart from the implications of unsuitable environmental, economic and technical practises being made mandatory, this can also lead to discontentment in those carrying out the implementation at ground level (U. Rammert, 2013, pers. comm.), whom, having a great knowledge of their region and the issues it faces, can see that what they are obligated to carry out could be greatly improved upon or in extreme cases, is unlikely to help the cause at all.

Drawing from this, it is possible that generalised environmental, economic and technical policy being implemented in a standardized way throughout the diverse landscape of Europe, may be a waste of resources if the policy and regulations do not fit the needs of the region, and in some cases on a local level, could even be detrimental to the environment.

In bottom-up projects those working at the “implementation-level” or “the bottom” are those initiating the project and defining the objectives. This has the advantage that these local implementation-level actors understand the local conditions and the process of implementation intimately (Rammert 2012). Essentially bottom-up initiatives are initialised, developed and implemented by the same stakeholders. In this way the people to carry out the project are the same people who identified a problem to be solved, designed a solution and provided the drive to reach the projects objectives (U. Rammert, 2013, pers. comm.)

Bottom-up agri-environmental projects have the potential to address specific issues at a regional or local level, involving relevant stakeholders within an organisational structure meaningful to the region and stakeholders involved (Rammert 2012).

An agri-environmental project is more likely to be accepted by the community if it originated in their region and is initiated and implemented by actors who are part of

the community. This development of a sense of ownership is important for continuation of regional environmental progress (Uetake et al. 2013). Bottom-up projects that originate this way are less “foreign” and are viewed without suspicion, as the aims and origins of the project are more transparent (Uetake et al. 2013). It may also therefore be plausible that due to smaller size and local aims it may be easier for the project representatives to communicate to the public the environmental benefits or public goods produced.

Due to bottom-up projects being more likely to meet regional or local environmental needs, it is a possibility that a large number of small local bottom-up agri-environmental projects is more effective in a region than having a small number of large regional, or supra-regional, top-down agri-environmental projects applying general objectives which may not be entirely suited to a region and its environmental, cultural and economic needs.

Having established that bottom-up orientated projects often allow for the development and implementation of solutions better suited to the regional and local conditions, it is important to note a common major flaw in the communication processes of top-down systems. The top-down approach, due to its characteristic structure, sends orders down a chain of command, to reach the implementation-level; this is an intrinsically one-way process. Two-way communication is of great importance, facilitating long-term relationships and mutual understanding (Janse & Konijnendijk 2007); communication by definition is an *exchange* of information (Oxford Dictionaries 2013) thus without communication being two-way it ceases to be communication at all (U Rammert 2013, pers. comm.). Lack of communicational feedback from the implementation-level is part of the cause of problems seen within top-down orientated projects, and constitutes a fundamental difference between top-down and bottom-up initiatives. It overlooks a useful source of valuable information in the form of practical-implementation knowledge (Rammert 2012) and soft knowledge (Janse 2006).

The standard structural organisation of agri-environmental projects is top-down, and having become habitual practise, this has resulted in this flawed one-way communications process becoming the standard practice of communication, even

though bottom-up orientated projects call for two-way communication processes (U Rammert 2013, pers. comm.).

2.6 Public participation: Introducing a bottom-up element into top-down initiatives

In the top-down policy-making and planning process a lack of two-way communication is addressed by the involvement of stakeholders or the public through participatory processes (Reed 2008).

Participation can vary in the degree of engagement of the stakeholders, from simply aiming to raise awareness to actively engaging and empowering the local community (Reed 2008), from normative (based on the people's democratic right to participate) to pragmatic (using participation to make better decisions) (Reed 2008).

Post-participation disillusionment is a growing concern when the claimed benefits of stakeholder participation are not realised (Reed 2008). In his review paper Reed (2008) discusses the key features of best practise participation, this is of relevance as these emphasise typically bottom-up characteristics.

A pragmatic approach addresses the wants, needs and opinions of local stakeholders and local environmental needs; it makes use of the local and implementation-level knowledge and soft knowledge provided by stakeholders, which contributes to developing robust solutions and decisions (Reed 2008). These policies are believed to have a higher quality and longer durability (Reed 2008).

Having established the relevance of participation as bottom-up processes, literature about the communication processes in pragmatic participation procedures with a high degree of stakeholder or public engagement, will be included in the identification of communications focus areas for this thesis.

2.7 Terms and vocabulary within the context of this thesis

Within this thesis those stakeholders operating at the "bottom" level will be referred to as the *implementation-level* stakeholders; "top" level will be referred to as *policy-*

makers and administrators, as these terms best represent the stakeholders within agri-environmental projects. It should be noted that implementation-level stakeholders often include farmers, but also other land-owners, depending on the project in question.

The term *stakeholder group* is used as a collective term referring to a group of individuals belonging to the same professional background (i.e. *farmers, scientists and policy-makers and administrators* belong to different *stakeholder groups*). The term may be used at project level to distinguish between people of different professional backgrounds working within a project, or as a meta-term to classify all those belonging to a professional group in general. This should be easily discernable based on the context of the terms used. For example the *stakeholder group* of the scientists working within the bounds of a project, or the *stakeholder group* of the scientific community as stakeholders within many different projects and different regions.

2.8 Communication

As has been established, communication is defined as the exchange of information (Oxford Dictionaries 2013).

In the past communication has been described as having four main elements, the source, message, medium/channel and receiver, (Janse 2006; Janse 2008; Flor 2004); this is known as the SMCR model (Flor 2004). Although this simplified model provides an overview of basic communication components, it is a linear representation, is vertical (source – receiver) and therefore based on dependency on the source, not taking into account the actual interdependent relationship between the “source” and “receiver”, assuming the passive reception of the message (Flor 2004). Essentially this model is linear, and one-way.

Contention between the definition of communication being a one or two way process, occurs within the literature, with two-way communication being labelled “participation” by some (Reed 2008). In the context of this thesis, communication will refer to a process which is two-way in which the receiver is not passive but also an

active provider of information (Janse 2006; U. Rammert, 2013, pers. comm.). This model of communication is known as the Convergence Model (Kincaid, cited in Flor 2004), and depicts communication as having no specific source and receiver, but as having co-equal participants involved in a cyclic and interactive process, occurring over time. The aim of communication implied by this model is mutual understanding (Flor 2004). The Convergence Model of Communication depicts most accurately, the flow of two-way communication.

Flor (2004) calls for two-way communication that encompasses participation of the receiver, enabling and empowering the receivers to become actively involved in the process, becoming participants themselves.

Communication is also influenced by external context, that is the setting of the communication socially and situationally (Janse 2006), and by the internal context, that is based on the receiver's personal experience, prior knowledge and values (Janse 2006; Jurin et al. 2010). This internal context is important and highlights the need to ensure the recipient has the ability to contemplate and analyse the content of the message (Janse 2008).

Keeping in mind that the SMCR model is flawed, the SMCR model, the Convergence Model of Communication and the knowledge of external and internal context can be used to provide an overview of areas in which communication problems may occur.

Successful communication is stated as occurring when the message is fully understood by the recipient (Jurin et al. 2010). Alternatively according to the Convergence Model of Communication, successful communication occurs when mutual understanding is reached (Flor 2004). In either case, misunderstandings during communication are due to "noise", these do not necessarily have to be sounds, but are any issues which may result in misunderstanding or incomprehension of a message (Jurin et al. 2010). Many of the problems outlined in the next section can be considered noise. Although the Convergence Model of Communication emphasises the equality of both participants and makes no distinction between source and receiver (Flor 2004), other sources state that in a communications process the responsibility rests with the source (or communicator) who takes responsibility

should communication fail via incomprehension of the message or misunderstandings (Jurin et al. 2010). It is hard to marry these two differing ideas, perhaps due to the many different ways communication can take place; once again this seems to be due to the contention between a linear one-way model, or an interactive cyclical and bi-directional model.

2.8.1 Environmental Communication

Environmental Communication is the exchange of all forms of environmental information (Flor 2004), the way in which we build understanding of the environment and human relationships to the natural world (Jurin et al. 2010), or alternatively the study of the way communication about the environment takes place (Jurin et al. 2010). Definitions vary from source to source.

Within agri-environmental projects much of the communication taking place is environmental communication. It must be noted that this can be viewed from either a micro (between individuals) or macro-communication (between different *stakeholder groups*) perspective (Jurin et al. 2010).

Ter Mors et al. (2010) outlines the need for the kind of communication that aims to provide information about environmental issues, in order to raise awareness and develop a “deeper understanding” of complex environmental issues in the receiver. This is called *informative communication*, and is important to provide to the public because without knowledge and awareness about an issue, successful action cannot take place (Ter Mors et al. 2010).

The interface between forest policy decision-makers and researchers is wrought with contention over the provision and use of relevant research (Janse 2008). Decision-makers believe researchers do not work on relevant topics or supply the needed information; researchers believe decision-makers do not understand the information, nor will they make the effort to try, and do not take the “best available” scientific information into account when making decisions (Janse 2008). In order to resolve this, improved communication between policy-makers and researchers is needed, which will improve the science/policy interface (Janse 2008). It must also be noted that the structure of the communication process is thought to be a contributor to

effective dialogue needed to develop sound policy (Janse 2006). Communication is also considered by some as a means of bridging the science-policy gap (Guldin 2003).

Within top-down structured projects (often those that are policy driven) the standardized and formalized system of project planning is too rigid to allow for productive and successful communication (Rammert 2012).

Davies & White (2012) acknowledges communication (along with trust) as an enabler of effective collaborative partnerships.

The need for an increase in communication between science and the rest of society is recognised in order to firstly fulfil the public's need for a "greater accountability" of science, and secondly due to the increased requirement (from funding agencies) for researchers to consult stakeholders during phases of research projects (Welp et al. 2006). This communication is referred to as "science-based stakeholder dialogues" by Welp et al. (2006). This communication is outlined as important for providing scientists with real-world relevant research questions, for a "reality check" regarding research underway resulting in stakeholders being more inclined to utilise results. It introduces ethical considerations and finally provides scientists with access to important knowledge and data held by the stakeholders (Welp et al. 2006). Science-based stakeholder dialogues aim to combine the knowledge of the scientific community and that of society or stakeholders, essentially acting as an interface combining two knowledge domains (Welp et al. 2006).

Hahn et al. (2006) suggests that the communication of ecological knowledge (*informative communication*) to stakeholders within the projects of Ecomuseum Kristianstads Vattenrike, a small municipal organisation, has had positive effects on facilitated conflict resolution, trust building, and changing the internal values or attitudes of stakeholders (Hahn et al. 2006).

2.9 Communication problems

The following areas in which communication problems occur were identified from the literature; these were the areas deemed relevant for investigation of communication problems in bottom-up agri-environmental projects, within this study. Literature included was in no way contained to the agri-environmental arena as it was deemed that to identify initial areas in which communication problems may occur, there would be value in viewing literature from all environmental sectors. Articles on bottom-up projects or participation processes were included, as well as those with an emphasis on communication or relevant areas of communication. Papers regarding policy communication were also included, if the information was thought to be relevant.

2.9.1 Incentive

The first problem brought to attention during the initial Baltic COMPACT meeting (February 28th 2013) was that of incentive, specifically the incentive for implementation-level stakeholders (e.g. farmers and other land owners) to start-up a bottom-up agri-environmental project. The obvious answer to the question is monetary, in the form of subsidies etc., however the problem with incentive runs deeper than that.

Firstly although there are some monetary incentives available for the implementation of some agri-environmental solutions, there are still not enough market incentives for the provision of public goods (such as environmental benefits) (Uetake et al. 2013; Davies & White 2012). There is specifically a lack of bottom-up incentives (Davies & White 2012) and it has also been noted that the provision of economic (monetary) incentive alone may not be enough to change behavioural patterns which would promote the ongoing adoption of the production of environmental benefits in the long-term, especially after a project ends or financial incentive is withdrawn (Hahn et al. 2006; Davies & White 2012). Therefore there is a need for other kinds of motivation or incentive such as communication networks, stated by Davies & White (2012), or what is termed social incentives for collaboration by Hahn et al. (2006), who go on to highlight its further importance by stating that “Social networks are

instrumental for mobilizing social memory, generating social capital as well as legal, political, and financial support to ecosystem management initiatives.”

This highlights several areas of communication importance regarding incentives; firstly the question regarding the availability of monetary incentive (for example in the form of subsidies); secondly if stakeholders are aware of possible financial incentives available, and thirdly the development of communication networks in order to raise social incentive. There is a fourth area of communication with regards to incentive; the question of whether stakeholders have the basic knowledge needed to be aware of the environmental problems occurring within their region, and therefore whether the communication of this basic knowledge and information to promote awareness is taking place, or is substantial enough. A gap in the basic knowledge about environmental issues leaves implementation-level stakeholders unaware of the state of the local environment, of how their actions may be affecting it, or of other alternatives or solutions available. Without awareness of environmental issues or possible agri-environmental solutions there can be no incentive to start up an agri-environmental project, as stakeholders do not realise there is a reason to do so. This was brought up at the Baltic COMPACT meeting on February 28th 2013.

2.9.2 Information availability and relevancy

Much of the information about environmental solutions is generated by the scientific community, and this information needs to be available to implementation-level stakeholders who are starting up or involved in an agri-environmental project (Uetake et al. 2013). As well as this information being communicated (and therefore accessible), it also needs to be practical (Uetake et al. 2013); this need for practical research is also brought to attention by Janse (2008) when supplying policy-makers with information. The need for the clear communication of information by scientists to layman or the implementation-level also occurs in the literature (Welp et al. 2006), seen between scientists and policy-makers (Janse 2008; Janse 2006; Guldin 2003) and in participatory processes (Reed 2008). Relating to this science/ implementation-level divide is the need of research processes to incorporate valuable local and implementation-level knowledge held by implementation-level

stakeholders (Welp et al. 2006). Janse (2006) also highlights the importance of professional/ technical information, which is essentially practical knowledge held by a professional in their field. The incorporation of this knowledge into the research process is highly valuable; not only does it ensure the production of practically and “real-world” relevant research outcomes (Welp et al. 2006; Janse 2006), but the regular and early involvement of stakeholders in the research process promotes a sense of “ownership” of both the research outcomes and the process (Welp et al. 2006). Research generated in this way is more likely to be implemented and used by the stakeholders (Welp et al. 2006).

Essentially within this “knowledge and information access” section of communication, the areas of interest are problems involving the following; the first problem area is pertaining to the availability of information, basically whether a communication process is occurring at all. The second concerns the “message” from the scientific community pertaining to agri-environmental research, this encompasses the relevancy of the message’s informational content. Lack of relevancy of information provided by the scientific community highlights a basic misunderstanding of what information is needed by the implementation-level stakeholders. The third and final area concerns the need to incorporate implementation-level input and knowledge into the research process, as this is highlighted in the literature as needing to be addressed. This may indicate a lack of a two-way communication process, the implementation of which, however, is seen as a key to good stakeholder-scientist dialogues (Welp et al. 2006). It is a possibility that addressing the need to include valuable knowledge originating from the stakeholders themselves in the research process, would in turn address the problem of practical relevancy of research provided, and perhaps also the need for clearer communication from scientists.

2.9.3 Problems with the roles of different stakeholder groups within bottom-up agri-environmental projects

As previously mentioned, a top-down organisational structure has, in the past, been the prevalent organisational structure of agri-environmental projects. With the occurrence of more bottom-up projects within the sector, a major restructuring of the

roles of different stakeholder groups within projects has needed to take place (Rammert 2012). However as most stakeholder groups were so accustomed to their traditional roles (in a top-down hierarchy), this has resulted in some problems (Rammert 2012). Rammert (2012) recognises that the new roles of stakeholders need to be clearly defined early on in the project, because the fundamental communication process involved in top-down and bottom-up approaches is so different, that often these new roles are quite different too. Leadership positions previously held by ministries and those in “top” level positions are transferred to regional and local implementation-level stakeholders. There is also the possibility of new roles previously unseen in top-down structured projects, which need to be filled, in bottom-up projects (Rammert 2012). There is however, also evidence for the need to fill some of these “new” roles in top-down systems (Janse & Konijnendijk 2007; Reed 2008).

Thus areas of interest with reference to communication are firstly, role reallocation from traditional roles seen within top-down structured projects to those better suited to bottom-up structured projects. This would result in stakeholder groups fulfilling different roles than they may be used to, which are better suited to the stakeholder group in question and to a bottom-up structured project. The second area of interest is the need for clear definition of roles, and the responsibilities of different stakeholders (Davies & White 2012; Rammert 2012). The third and final area is the arising of new roles, often previously unfilled or unrecognised, which may add to the success and efficiency of bottom-up projects (Uetake et al. 2013). these are also outlined in the literature as important in traditionally top-down policy examples (Janse 2008) and participation processes (Reed 2008). These “new” roles have been termed within literature encompassing top-down, bottom-up and participatory processes as: “translator” (Rammert 2012), “mediator” (Janse & Konijnendijk 2007; Uetake et al. 2013; Castella et al. 2007), “facilitator” (Davies & White 2012; Janse & Konijnendijk 2007; Welp et al. 2006; Uetake et al. 2013; Benn et al. 2009; Robinson et al. 2006; Reed 2008; McNeil et al. 2006), “intermediary” (Uetake et al. 2013; Harris & Lyon 2013), “co-ordinator” (Uetake et al. 2013; Benn et al. 2009), “knowledge provider” (Uetake et al. 2013) and “knowledge broker” (Janse 2008; Reed 2008; Uetake et al. 2013). All of these previously overlooked or even neglected roles,

essentially relate to communication itself. The provision of a representative individual, institution or stakeholder group whose aim is to promote clear, concise and conflict free communication between different stakeholder groups would bridge the gaps between different groups of stakeholders.

These “new” roles, which are not necessarily “new” as such, have however often been overlooked, disregarded, or not been actively fulfilled as roles (that is to say they have not been allocated to a stakeholder group, institution or individual). Recent literature has highlighted these roles as either being left unfulfilled or there being a lack of individuals or organisations within these roles, and therefore the processes that they aim to carry out are being left undone, as communication has not been a top priority.

Rammert (2012) suggests that state agencies and politicians change their roles from control institutions to translators and interpreters, while still maintaining their normal responsibilities, and lend a “helping hand to remove obstacles.” Farmers should become information sources for the region and change from reactive to proactive work and universities should act as advisors as well as continuing to provide new ideas and research. Janse & Konijnendijk (2007) report in the Neighbourwoods project, scientists held the role of facilitation of public participation processes. Knowledge brokers are not a specific stakeholder group but classed as institutions who translate and distribute relevant research for the specific needs of different stakeholders (Janse 2008).

Providing a bridge between stakeholders, be it through individuals, institutions or websites etc. has been mentioned by Uetake et al. (2013); Hahn et al. (2006); Reed et al. (2009); McNeil et al. (2006); Garcia-Lopez (2013); Harris & Lyon (2013).

Individuals undertaking the bridging of a gap are also called “boundary spanners” by Harris & Lyon (2013). The WWF reports the organisation “Odling i Balans” as a bridge between research and practical application (WWF 2010). The need to provide a bridge between different stakeholder groups reflects the gap between stakeholder groups, be it in knowledge and expertise (Uetake et al. 2013), in language (Rammert

2012), general dissimilarities (Reed et al. 2009), professional cultures (Harris & Lyon 2013) or the gap between research and practical application (WWF 2010).

Thus these “new” roles are those fulfilling communicational needs of a project by bridging the gaps between different stakeholders or stakeholder groups.

2.9.4 Trust and Relationships

Trust is the “firm belief in the reliability, truth, or ability of someone or something” (Oxford Dictionaries 2013); good relationships are based on trust. Trust can be regarded from a macro-level (of organisations) or micro-level (between individuals) (Bachmann & Inkpen 2011). It is a complex topic and within the context of relationships between stakeholder groups it will be regarded as macro-level or institutional trust, and those between individuals from different stakeholder groups within projects is micro-level trust. It must be noted that micro-level trust is a far better understood phenomenon than institutional trust, and the complexities of the subject limit the possibilities of full comprehension of either within the scope of this thesis; however it is hoped that an overview has been achieved.

Institutional trust can be linked to an organisation’s good reputation.

Therefore it is logical that trust between partners was recognised as a prerequisite for successful project cooperation by the Baltic COMPASS project (Rammert 2012). Trust (both interpersonal and institutional) has been established as important for building relationships in interdisciplinary environmental research and between researchers and practitioners (Harris & Lyon 2013), in science-based stakeholder dialogues (Welp et al. 2006), in collaboration between stakeholders (along with communication) (Davies & White 2012) and in collective action (Uetake et al. 2013). Good relationships between stakeholders affect the efficiency and success of agri-environmental projects (U. Rammert, 2013, pers. comm.).

Areas of interest to be investigated were firstly the affect trust has on relationships between different stakeholder groups, and vice versa; secondly the influences of trust and relationships on the communication processes, and thirdly if the state of the

communication processes has an effect on the trust and relationships between different stakeholder groups.

2.9.5 Preconceptions and misconceptions

Preconceptions and misconceptions held by one stakeholder group about other stakeholder groups are a common occurrence within agri-environmental projects, and like trust, are related to reputation. Throughout the literature the idea of preconceptions and misconceptions are referred to by differing terms. The concept is highlighted in Ter Mors et al. (2010) as motives the layman associates with different stakeholders; these are generalised expectations and in this paper were shown to have an effect on the perceived quality of information communicated by the organisation in question (i.e. these preconceptions about the organisation in question controlled the outcome of how the information was received). Rather well known is the undeserved “bad-reputation” farmers have with other stakeholder groups (Hahn et al. 2006) which is often, (but not always) a general misconception. A poor reputation, whether it be a misconception or deserved, may prevent collaboration (Harris & Lyon 2013).

As preconceptions and misconceptions about stakeholder groups can hinder communication processes by either preventing collaboration or introducing a sense of mistrust, it was set out to firstly establish if there had been, or still were, any preconceptions or misconceptions within the agri-environmental project examples; secondly to assess how these affected trust and communication processes, and thirdly to find insight as to how they were combatted, if in fact they were.

2.9.6 Working language barriers

Different stakeholder groups come from different professional backgrounds; each of these groups has a different working language (U. Rammert, 2013, pers. comm.). Prager & Vanclay (2010) make reference to conservationists and farmers speaking different languages, and Guldin (2003) acknowledges the need for “boundary spanners” that speak the language of both scientists and policy-makers. There is a need for a common language to be established (Welp et al. 2006). This language

barrier consists of: different terminologies used by different professional cultures (Harris & Lyon 2013), differences in word use, variations in the definition of the same word used by different stakeholder groups (U. Rammert, 2013, pers. comm.; Rammert 2012), and differences in their preferred communication style (Gelders & Ihlen 2010) (this includes the preferred communication channel, and information distribution method).

These differences can result in misinterpretation, misunderstandings, or a total incomprehension of the message. In the case of different preferred communication channels, this may result in the recipient not receiving the message at all and thus total communication failure.

Essentially within this “knowledge and information access” section of communication, it was thought to assess the following; the availability of information, or whether a communication process is occurring at all; whether language barriers occurred within the project examples, and if so between which stakeholder groups, and whether terminology, word use or communication style differences are problematic. The last area of investigation was the ways in which the language barrier was lessened, eliminated, or if there were other ways around the problem applied.

2.9.7 Collaboration and Cooperation

The Oxford Dictionaries (2013) defines collaboration as “the action of working with someone to produce something” and cooperation as “the action or process of working together to the same end.” In the OECD report by Uetake et al. (2013) this is referred to as collective action. Collaboration is regarded by some, as a feature facilitating the movement from central authority to local governments and local actors, via a decentralization of authority, typically associated with participation processes aimed towards empowerment (Davies & White 2012); essentially this is a factor of a shift from top-down originated and organized structure to a bottom-up organisational structure.

The process itself is important because there are often instances where individual action may not fully address an agri-environmental aim, especially with regards to

the production of agri-environmental public goods or the reduction of agricultural negative externalities (Uetake et al. 2013). As such, within agri-environmental projects, where there is more than one partner involved, the importance of collaboration and cooperation between them is of great importance, one could argue that it is a requirement of multi-stakeholder group projects.

Collaboration has been reported as a factor promoting willingness to co-operate and building trust (Uetake et al. 2013; Guldin 2003); cooperation is affected by good reputation and trust (Uetake et al. 2013), and is known to play an important role in bridging the science-policy gap (Guldin 2003). Cooperation is also bettered by the existence of trust (Davies & White 2012). Taking into account these inter-relationships, it would be logical that where there is a problem with trust and relationships between stakeholder groups, a corresponding problem in the collaboration and cooperation processes would be seen. Information provided to the layman from a collaboration of stakeholder groups with considerably different assumed motives, has been shown to have a greater perceived quality than information from one stakeholder group alone (Ter Mors et al. 2010).

The many challenges in the facilitation of collective action are outlined in Uetake et al. (2013).

Challenges facing collaboration include tension, due to participant's different views on the responsibilities allocated, the degree of autonomy, a lack of incentive for collaboration due to costs, relationships and trust, expectation of increased bureaucracy, among other things (Davies & White 2012). For a collaboration effort to be successful, clearly defined roles and allocated responsibilities are needed, as well as clear aims of the collaboration (Davies & White 2012). It is also of importance to clearly define the extent of the stakeholder involvement and their influence (Davies & White 2012). The shared goals need to be agreed upon and maintained or adapted as the collaborative process continues, and institutional trust and communication are regarded as essential (Davies & White 2012). It is possible that politicians and agencies have unrealistically high expectations of collaborative processes and what is achievable (Davies & White 2012). Poor intra-stakeholder group cooperation, specifically farmer to farmer is highlighted in Rammert (2012) in Schleswig-Holstein.

Rammert (2012) states that cooperation is hindered by participants' inability or unwillingness to acknowledge and accept the differences of other participants (stakeholder groups).

Another aspect of collaboration and cooperation is the time it takes to establish a good collaborative process (Davies & White 2012; Guldin 2003).

Taking these facets of collaboration and cooperation into account, the areas of interest within this section are: enquiring into the occurrence of collaboration and cooperation within the projects, investigation of the quality of these processes (i.e. out of necessity or voluntarily), areas which are positively affected by good collaboration and cooperation processes, and any factors which may diminish the quality of the collaboration and cooperation, and finally assessing the existence of collaboration and cooperation within stakeholder groups (e.g. farmer to farmer) and questioning the reasons of any lack thereof (for example lack of incentive to do so).

3 Methodology

In order to identify communication problems and the preconditions for and factors of good communication processes within bottom-up orientated agri-environmental projects, a set of examples of agri-environmental projects needed to be chosen, for investigation.

3.1 Selecting project examples

A selection criteria list was created in order to ensure the selection of relevant examples, and to render these examples as comparable as possible.

This selection criteria was then supplied via the online project management platform BASECAMP to the members of the EU funded Baltic COMPACT project. The members were then asked to provide examples within their regions that fit the criteria.

The following is the list of the selection criteria that needed to be met by examples. These aimed to provide examples of bottom-up agri-environmental initiatives within the Baltic region, so as to collect information on the communication processes within such projects.

The examples should:

1. Be Bottom-up

That is based on ideas, initiatives and implementation at ground level, not a project put in place due to legislation or a decision made at a higher level.

2. Be generally regarded as successful

The project should be meeting their aims, with documented proof, this should be in general agreement, (not based on one individual's opinion).

3. Include two-way communication

It should be on a communication basis, not only participatory one; communication should include the opportunity for all stakeholders to discuss and influence the project, that is to say the communication should be two-way.

4. This communication should be between different stakeholder groups
Communication should not be only internally within one stakeholder group (farmer to farmer, scientist to scientist).
5. Collective
There should be more than one individual participant.
6. Collaborative
It should include different stakeholder groups, working together towards a common goal.
7. Within the Baltic Sea Region
This criteria point was important for the scope of this study, but in the future for the development of the handbook, there is no need to exclude examples from outside of this region; therefore it could be useful to skip this criterion for the future work in this subject that is to contribute to the Baltic COMPACTS Handbook of communication.
8. Agri-Environmental or directly related to the Baltic Sea nutrient reduction
This criterion was relevant for this study; only agri-environmentally based projects were selected or those with aims of nutrient reduction in the Baltic Sea.
9. WIN-WIN
Projects were selected that provided both environmental benefits and economic gain or other benefits for the ground-level implementation stakeholders (often farmers).
10. Product related rather than Policy related
Although projects that are policy related may have a wealth of good communications practises involved, these are beyond the scope of this study; however, at a later date inclusion in the handbook will be necessary.

The project partners of Baltic COMPACT are based in Finland, Denmark, Sweden, Latvia and Germany, providing the ideal network with which to identify suitable initiatives in a broad region, as all project partners were aware of the aims of the study and familiar with the initiatives underway within their regions.

After the selection of examples, any available information on the initiative was collected from the informant partner of Baltic COMPACT and from respective websites and relevant publications. Contact was made with relevant personnel involved in the initiative in question, generally by email and telephone conversations, through which an interview date and time was organised with a suitable representative of the project. Representative experts were chosen with whom to conduct the interviews.

Several possible examples were put forward, which under closer inspection, did not fit the selection criteria; specifically the requirement of being a bottom-up structured project. It seems that there is some contention as to the definition of the word, and the terms bottom-up and grassroots are misused as trend or buzzwords and occur often in project descriptions, which are entirely top-down orientated. There is an unfortunate disregard for the definition of the terms, as they are incorporated as project “keywords”, purely due to the value lent to the project upon its association with the respective keywords.

Of the possible suitable examples put forward, several did not meet the selection criteria of being bottom-up orientated; one interview was carried out and discarded due to the project orientation being top-down, one was difficult to make contact with due to a language barrier and was thus discarded and two were discarded as associated representatives were too busy.

3.2 Data collection: Interviews

Three semi-structured expert interviews were carried out either in person or via the Voice over Internet Protocol software Skype (Microsoft Inc.).

Semi-structured interviews as opposed to structured interviews provide flexibility in order to gain as much qualitative information of high quality as possible. Where structured interviews provide very comparable data, they do not promote the two-way communication processes that this study aims to highlight as so important; thus a communicative approach was chosen and a semi-structured interview developed.

As the subject matter is communication, it must be noted that these semi-structured interviews were carried out more like a dialogue that aimed to answer a series of questions. Due to the complex nature of the subject, and the pre-identified possible problems, it was decided that providing the interviewee with detailed context and feedback was more important to gaining as much insight into the project-specific communications-issues than the production of a traditional semi-structured interview in which little feedback is given (in terms of yes/no or acknowledgement from the interviewer) and avoiding leading questions. Therefore a list of issues to be discussed was outlined as sub-questions under each question, which were raised if the interviewees did not bring up these issues while answering the main question. During this very informal interview setting, the aim was to develop a two way discussion, putting the interviewee/interviewees at ease and developing trust. Although it can be argued that answers to questions within this kind of discussion may be biased as the interviewee may identify what they view as the “required” answer, it is not believed to be the case within these dialogues, as it was made very clear in the beginning of the interview what the aim of the study was, and that there were no correct or incorrect answers. During the dialogue yes/no answers required elaboration, during which insight was gained on the view and opinion of the interviewee. It must be noted that the interviewer worked towards creating a comfortable, informal atmosphere and had the impression that the discussions were open and honest and contained much relevant detail. This is not to say that the information received was not based on the opinion of the interviewee, however these

interviewees were chosen for the relevance of their expert opinions on the subject matter.

One major criticism of many communication processes occurring in agri-environmental projects is that they are one-way, rather than two-way and are lacking in transparency. For this reason, interviews were carried out so as not to engage in this flawed communication, but rather to involve and engage the individuals being interviewed, in order to produce research which is directly useful to them.

In order to design relevant questions that would provide detailed information covering as many communication issues as possible, problems with communication within different environmental sectors were collected from both relevant literature sources and through the problems highlighted by the Baltic COMPASS project; these were outlined in the introduction. Due to the lack of data and literature with specific regard to bottom-up agri-environmental projects, many of the problems highlighted in the literature were those found in top-down orientated systems or were bottom-up but not necessarily agri-environmental initiatives. However, communication problems are not unique to bottom-up agri-environmental projects and thus communication problems in the literature could be used to identify areas to investigate, in which communication problems may occur.

The categories of interest outlined in the introduction section, were then used to compile semi-structured interview questions, designed to provide as much detail as possible about these areas in which communication problems occur. The questions aimed to provide a full understanding of the unique communication processes, structure and problems occurring within each project example.

The questions needed to provide qualitative data that was comparable between examples.

Slight modifications of the questions were used when interviewing experts representing each example; for example the participant group being addressed changed between interviews, and thus the questions needed to be adjusted accordingly. However, the basic structure and questions remained the same.

If relevant example-specific sub-questions were included.

The following semi-structured interview template was used to create interview questions for each project example; not all questions were voiced as often answers had already been provided, especially with regards to sub-questions. Wording of questions was also adjusted according to the situation and English language competency of interviewee.

3.2.1 Interview Template

Introduction Question: What is your background, and what is your role within “Project name”?

1. What was the motivation to start the “Project name” initiative/project?

What was your personal motivation to become involved?

How is it financed?

Which parts, if any, are financed and which are not at all?

2. Often information about new developments and research is provided, which is not necessarily accessible or easily understood; what problems arise when provided with scientific information which is not practically implementable or useful? How do you overcome this?

Do you have someone you use as a “translator“?

Where do you get the needed information from when it comes to new techniques, etc.?

What are the exact problems here, if the information is not transferable?

Is the correct research being undertaken?

Is the scientific information available to you at all?

3. It has been encountered that there are some problems with the traditional roles of stakeholders or involved groups, do you agree?

In the initiative “Project name” which stakeholders perform which roles?

Could you provide a structure on how the communication processes work within the initiative between stakeholders?

How does this differ from traditional roles played?

4. Could you describe the professional relationships between the active partners of "Project name", and are there any major conflicts between partners?

Are there any reoccurring problems?

Would you say relationships between stakeholder groups within this project are based on mutual respect and trust?

How have you built up relationships of mutual respect and trust?

5. Often different stakeholder groups come from different traditional and philosophical working backgrounds, which can make discussion and negotiations difficult. There are also different preconceptions and misconceptions about different groups. Do you agree?

How would you describe your role (i.e. the role of the project and therefore the major stakeholder group/s involved) within the society?

Do you believe the rest of society views you this way?

How have those involved in "Project name" worked towards changing the view of society towards "relevant stakeholder group"?

What support do "relevant stakeholder group" need in order to enlighten the general public about their real role within society?

6. This difference in working conditions and backgrounds has resulted in each stakeholder group developing their own working language. How have you in "Project name" worked towards eliminating this language barrier?

Or worked towards understanding each other?

7. "Relevant stakeholder group" in the past have often worked on an individual basis, with discussion often being limited to basic issues etc. and seldom has

the discussion of problems, solutions and the sharing of new developments or of new land use systems taken place.

How has “Project name” worked towards addressing this problem?

What challenges were faced?

8. What do you hope for the future cooperation and collaboration within the agri-environmental industry?

Have you had any other problems regarding legislation etc.?

3.2.2 Transcriptions

The interview aimed to be around 50 minutes long, however interview lengths varied.

Interviews which were conducted in person were recorded with a Konig electronic Digital Voice recorder DMR-STICK6, as .WAV files. Interviews conducted over Skype (Microsoft Inc. 2013) were recorded using the software Free video call recorder for Skype (DVDVideoSoft 2013) and saved as MP3 files. In the case of language barriers a translator was used.

Transcription of recorded interviews was undertaken with the help of the audio-transcription software package F4 (Dr. Dresing & Pehl GmbH). A simple transcription procedure was applied according to the Manual on Transcription by Dresing et al. (2012). These exact transcriptions were saved under the name ““Project” Transcript 1” first in rich text format and then as Microsoft Word (Microsoft Inc.) documents.

A second document was created which excluded non-relevant information, such as pauses, excessive laughing, stuttering, translations, incomprehensible words or phrases, and information that was off-topic; this made the transcript easier to evaluate, more compact and more useful. These were saved under the name ““Project” Transcript 2” as Microsoft Word (Microsoft Inc.) documents.

For both these versions of the transcripts please see the accompanying CD

A final transcription document was created for each interview which summarized the information further, in which English grammatical corrections were applied, long-winded responses compacted and time-markers removed. These were saved under the name ““Project” Transcript Summary” as Microsoft Word (Microsoft Inc.) documents.

These can be found in Appendix I.

Due to the OiB interview having two interviewees, and the Latvian example being with both the farmer and the translator, these summaries were written in the third person (he, she, they) or by the interviewee codes T and H (Odling i Balans), J (Latvian farm example) and B (Weidenschaft Eidertal example). Mentions of the projects in the text are referred to by OiB- Odling i Balans, Eider example- Weidenschaft Eidertal and Latvian example.

In the case of Odling i Balans, a distinction was made between when T or H were expressing a personal opinion, or that of the organisation itself; an example to demonstrate this is “H believes that...” and “OiB believes that...”.

Permission was granted by interviewees from Odling i Balans and Weidenschaft Eidertal to refer to both the projects and interviewees by name, after they reviewed the transcription summaries of the interviews. However permission from the farmer J from the Latvian example was not acquired due to the summary of the interview being in English and the translator being unavailable; his identity and that of his farm will therefore be kept confidential.

These final transcription summaries were chosen as those most suitable to use in the coding process, for the sake of clarity and removal of repetition, as most of the interviewees were not native English speakers.

3.3 Content Analysis

Analysis of the interviews was carried out via a qualitative research approach known as template analysis; this approach is also known as thematic coding or codebook analysis, however as this approach was carried out according to the process described by King (1998) it will be referred to by the term which he uses; template analysis.

Template analysis is undergone via the use of coding, which is essentially a process by which a “code”, defined by the researcher, is assigned as a label to the text sections which relate to it. This is in order to categorise or index relevant sections within the transcript, that relate to the same topic or theme, (King 1998).

This approach can be viewed as an analysis occurring between the two extremes of content analysis and grounded theory. In content analysis codes are all predetermined and cannot be modified; when using grounded theory codes are not identified or defined prior to the analysis, and all codes must be defined during the coding process (King 1998). Template analysis applies both the identification of themes and codes *a priori* (before) the coding process; these are outlined in a hierarchical list called a template, and this list is added to and modified during the coding process as interpretation of the transcripts takes place (King 1998).

According to the approach outlined by King (1998) a template of predefined codes and themes was developed, followed by the labelling of sections of text in the transcript summaries (words, sentences, phrases or whole paragraphs) during which revision of the template occurred; new codes were identified, the hierarchy modified, irrelevant codes deleted or similar codes combined. Parallel coding often occurred as is permitted within template analysis, where text can be labelled with more than one code.

In this analysis major problems with communication were labelled as the themes; these were grouped into super-themes according to their relevant causes. Under each theme a group of relevant codes was defined and identified; these codes were either processes or conditions occurring within the theme, which affect and/or are influenced by the theme.

Super-themes, themes and codes and their labelled responses were then entered into a Microsoft Excel (Microsoft Inc.) document, with each theme and its codes grouped on a different Microsoft Excel (Microsoft Inc.) sheet. This allowed for ease of access to relevant codes.

This coding document can be found on the accompanying CD under the name "Data Analysis".

A comprehensive definitions list of each super-theme, theme and code was produced. Parallel codes were defined according to their context (i.e. the definition may or may not have changed depending on the major-theme-problem under which it occurred). Relationships between super-themes and themes were identified as well as between different themes, and finally between themes and the codes which fall under them. These relationships were based on the influence of codes on their relevant themes, or on the state of the theme on their relevant codes. This was entered into a Microsoft Excel (Microsoft Inc.) document.

These definitions are presented as part of the results in Appendix Table 1.

This was followed by the development of conceptual models to illustrate the relationships between:

Super-themes and themes

Different themes

Selected important codes and their themes

Conceptual models were created in Microsoft Excel (Microsoft Inc.).

4 Results and Discussion

4.1 Example project Profiles

The following contains background information of the projects chosen as examples from which the data was collected.

4.1.1 Odling i Balans – Farming in Balance

Location: 16 pilot farms at various locations within Sweden.

Project aim: Farming with a balance in both economic and ecological respects (Odling i Balans 2013).

A network of 16 pilot and demonstration farms in Sweden developed Odling i Balans in order to implement new agri-environmental methods. Cooperating closely with researchers at the Swedish University of Agricultural Sciences, OiB aimed to be involved in the development of new and innovative techniques and technologies (WWF 2010; Odling i Balans 2013). Odling i Balans is an organization that bridges the gap between researchers and those who practically implement measures on the farms (WWF 2010). Solutions implemented need to be both economically and ecologically viable (Odling i Balans 2013). The organization has close ties with the Swedish University of Agricultural Sciences, the various farming advisory boards in Sweden, many sponsors in the form of various agricultural firms, ministries, the Federation of Swedish Farmers (LRF) and many more. A full list of stakeholders and more information (in Swedish) can be found here on their website (<http://www.odlingibalans.com>).

Project duration: 1991-present.

Expert interviewees: Teri-Lee and Håkan Eriksson. Håkan is a founding member of Odling i Balans, and has been the chairman for the last two years; although he is now stepping down from this position he will continue to be an active member.

4.1.2 Weidelandschaft Eidertal – Pasture landscape Eider Valley

Location: Eider Valley, Östliches Hügelland, Schleswig Holstein, Germany.

One objective of environmental policy in Schleswig-Holstein is the restoration of wetlands; this project arose from this objective of the Moorschutzprogramm (Programme for the Protection of Peat Bogs and Fens) of Schleswig Holstein (Uetake et al. 2013). Although it originated as a top-down project, it was undertaken via bottom-up practices, involving interactive and empowering participation of local land-owners, farmers and other important local actors (B. Lezius, 2013, pers. comm.). This “round-table” participation as well as a project priority of collaboration and communication ensured a successful and productive setting (B. Lezius, 2013, pers. comm.). The broad aim of the project was to rewet drained peatland (fens), the introduction of extensive grazing to shape the landscape (Uetake et al. 2013), and to promote the vegetative biodiversity naturally seen in the area. Some areas were classified as protected under the Flora Fauna Habitat Directive or as Special Protected areas under the Birds Directive of Natura 2000, and were also incorporated as aims of the project (B. Lezius, 2013, pers. comm.). The project was funded by the German federal Ministry of Education and Research (BMBF). It was initiated by the WBV- Wasser und Boden Verband (Water and Land association) and executed and organised by the WBV and the ALW- Amt für Land und Wasserwirtschaft (ALW is now the LLUR- Landesamt für Landwirtschaft, Umwelt und ländliche Räume, which is translated as State Agency for Agriculture, Environment and Rural Areas). Both the WBV and ALW acted as intermediaries between stakeholders (B. Lezius, 2013, pers. comm.). Other stakeholders included the University of Kiel, who accompanied the processes with research projects, farmers and land-owners, Foundation for Nature Conservation as well as other important local-level actors (Uetake et al. 2013; B. Lezius, 2013, pers. comm.).

Project duration: 1999-2004 although conservation work started in the area earlier and there are still ongoing projects related to the theme in the area.

Expert interviewee: Beate Lezius, who was the ALW representative in the area for the project.

4.1.3 Latvian Example

Undisclosed, privately owned farm implementing various agri-environmental projects.

Location: Latvia

The farmer, referred to as J, owns the farm on which he implements various agri-environmental measures and projects, including the building of a wetland (associated and partially funded by the WWF), a biogas plant, a green zone to promote biodiversity between the rivers and the fields and drainage measures to reduce water pollution. Apart from the wetland, all other projects were privately funded.

Collaboration occurred with the Latvian Farmers' Parliament to receive understandable and practically implementable research and information; other organizations involved are "inspection agencies" and those involved with the bureaucratic process of project approval. The farmer's motivation and aim for the implementation of these measures are purely nature protection and the provision of environmental benefits. Although not a multi-stakeholder project, this example was chosen due to its purely bottom-up origin, structure and implementation, and the fact that much collaboration and cooperation occurs with the Latvian Farmers' Parliament. (interview J., 2013, pers. comm.)

Project duration: 1994- present (Z. Kruklite, 2013, pers. comm.).

Expert interviewees: The owner of the farm J. He is the initiator of the projects on his farm. A translator had to be used during this interview; the interview was conducted using the Voice over Internet Protocol software Skype (Microsoft Inc.).

4.2 The Code Template

In text mentions of super-themes, themes and codes will be in italics.

The analysis of interview transcripts was undertaken using content analysis, specifically template analysis.

As many areas in which communication problems occur were identified from the literature and by Prof. Uwe Rammert (see introduction), template analysis was chosen as the most suitable analysis methodology, and these were used to formulate the initial template of codes with which to analyse the data.

The final codes representing problems in communication were not limited to those pre-identified, and the aim of the study was to develop an overview of all those communication problems affecting bottom-up agri-environmental initiatives. These additional codes were identified while analysing the transcription summaries, as is standard procedure in template analysis where a flexible template of codes is developed which is added to and adjusted during the coding process.

During the coding process the codes within the template were organised in a hierarchy of super-themes, themes and codes. The following is the hierarchy of super-themes and themes:

Super-theme: 1. Professional Cultural Differences

Theme: 1. Inter-stakeholder group relations problems

2. The Inter-stakeholder group Language Barrier

3. Scientific Cultural Problems

Super-theme: 2. Partially Professional Cultural Differences

Theme: 4. Traditional Role Problems

5. Policy and Legislation problems

Super-theme: 3. External to Professional Cultural Differences

Theme: 6. Intra-stakeholder group Communication Problems

Super theme: 4. Example specific

Theme: 7. Example specific problems, project priorities and factors/ processes that promote successful communication

Super-theme: 5. Suggestions to promote successful communication

Theme: 8. Suggestions

On the following pages is the full, final code template, including hierarchical categorisation of the codes by themes, and themes by super-themes. Many codes fall under more than one theme, those that are unique to one theme are marked with (*).

Areas of interest and problems outlined in the introduction were reclassified and incorporated into the template and either classified as themes, codes or split up into codes according to aspects of the problem to be investigated. Within the template the themes and codes that arose from the originally identified areas of interest and problems have been highlighted in colour, to make it easier to track the development of the reclassification according to a hierarchy of areas in which communication problems occur, and ensuring the reader that these initial problems were not discarded, but formed the foundation from which to build the template; these initial problems were included and expanded upon.

Incentive was classified as several different codes, each representing a different kind of incentive or aspect of incentive. These codes fall under several themes, and are marked in red.

Information availability and relevancy was split by aspects to be investigated into several codes under the themes *inter-stakeholder group language barrier* and *scientific cultural problems*; these are marked in orange.

Role problems was classified as a theme of its own named *traditional role problems*; aspects relating to the topic in the introduction were split into several codes which occur under this theme; these are marked in purple.

Trust and relationships was split and classified as a theme; *inter-stakeholder group relations problems* and a separate code for trust, called *respect, reputation and trust*. This code occurs not only under the theme *inter-stakeholder group relations problems*, but also under several other themes. These are marked in bold.

Preconceptions and misconceptions was classified as the code *misconceptions*, and sometimes as a code including misunderstandings; these codes occur under most theme problems and are marked in blue.

Working language barriers was classified as the theme *inter-stakeholder group language barriers*, and aspects of interest associated with it were classified as several codes occurring under the theme *inter-stakeholder group language barriers*. Some of these codes also occur under the theme *scientific cultural problems*; in these cases they relate directly to the scientific language barrier. This theme and these codes are marked in dark green.

Collaboration and cooperation was classified as a code of its own; this occurs under most theme problems and are marked in pink.

Those super-themes, themes and codes in black were identified during the coding process

4.2.1 The Code Template

Super-theme 1: Professional Cultural Differences

Theme 1: **Inter-stakeholder group relations problems**

- **Misconceptions and Misunderstandings**
- Conflicts
- **Reputation, Respect and Trust**
- Power-Balance*
- Mutual interests
- Networking
- **Collaboration and Cooperation**
- Empowerment
- Two-way communication

Theme 2: **The Inter-stakeholder group Language Barrier**

- **Basic Misunderstandings**
- **Miscommunication**
- **Differing terminology**
- **Differing word use**
- **Differing communication style**
- **Differing information priority (practically implementable research)**
- **Difficulties obtaining information**
- Knowledge (Higher level)
- Basic knowledge (Environmental) and Awareness of environmental problems
- **Incentive due to environmental awareness**
- **Incentive awareness**
- **Reputation, Respect, Trust**
- Mutual interests
- Networking
- **Collaboration and Cooperation**
- Empowerment
- Two-way communication
- Target Audience based communication

Theme 3: **Scientific Cultural Problems**

- **Misconceptions**
- **Basic Misunderstandings**
- **Miscommunication**
- **Differing terminology**
- **Differing word use**
- **Differing communication style**
- **Differing info priority (practically implementable research)**
- **Difficulties obtaining information**
- **Scientists' Incentive to produce non-scientific information or use of common language***
- **Scientists' Incentive to produce practically implementable research***
- **Information or research distribution platform***
- Knowledge (Higher level)

- Basic knowledge (Environmental) and Awareness of environmental problems
- **Incentive due to environmental awareness**
- Stakeholder response (to information provided, incentive, awareness, in the form of implementation)*
- Stakeholder involvement in research process from the start *
- **Reputation, Respect, Trust (with Scientists)**
- Mutual interests
- Networking
- **Collaboration and Cooperation**
- Empowerment
- Two-way communication
- Target Audience based communication

Super-theme 2: Partially Professional Cultural Differences

Theme 4: Traditional Role Problems

- **Misconceptions**
- Misunderstandings
- Traditional top-down roles being implemented*
- Role gaps (mediator, translator, bridge etc.) and filling of traditional role gaps*
- Redefinition of roles*
- Well defined roles and structural organisation of project*
- **Reputation, Respect, Trust**
- Mutual interests
- Networking
- **Collaboration and Cooperation**
- Empowerment
- Two-way communication

Theme 5: Policy and Legislation problems

- **Misconceptions, misunderstandings**
- Conflicts
- Lack of clarity and/or transparency*
- Too many/much regulations and legislation*
- Too many ways of interpretation*
- **Start-up Incentive provided by policy/ government***
- **Incentive awareness***
- Political agenda as a contributor/ affecting factor*
- Two-way communication

Super-theme 3: External to Professional Cultural Differences

Theme 6: Intra-stakeholder group Communication Problems

- Intra-stakeholder group Communication Problems*
- Within Stakeholder groups*
- **Incentive to collaborate and cooperate***
- Networking
- **Collaboration and Cooperation**
- Empowerment
- Two-way communication

Super theme 4: Example specific

Theme 7: Example specific problems, project priorities and factors/ processes that promote successful communication

- Example specific problems*
- Example specific factors or processes that promote successful communication*
- Communication as a project priority*

Super-theme 5: Suggestions to promote successful communication

Theme 8: Suggestions

- Communication rectification (two-Way communication)
- Target Audience based Communication
- Bridging Role Gaps
- Role redefinition and reallocation
- Predefined structural organisation
- Education
- Positive Press
- Giving recognition and Credit
- Empowerment
- **Trust building**
- Networking
- Collaboration and Cooperation
- Incentive provision and raising awareness of available incentives
- Youth outreach
- Policy and Legislation rectification
- General future suggestions

In the cases where one code occurs under more than one theme, the codes have different definitions based on the thematic context. These codes do not necessarily have the same relationship with all the themes they fall under, and therefore these relationships and context dependent definitions have been provided. *Appendix Table 1 contains a complete overview of the definitions of all Super-themes, themes and codes, as identified during the coding process, based on the interview summaries.*

4.2.2 Super-themes

The following lists the numbered super-themes coded that occur within the template along with their definitions.

1. Professional Cultural Differences

Differences in the professional culture, outlook and attitude in different stakeholder groups, typical for their "line of work" but not necessarily well understood by other stakeholder groups. Themes that fall under this super-theme occur due to these professional cultural differences; professional cultural differences are the key cause of these problems.

2. Partially Professional Cultural Differences

Those themes that fall only partially under the super-theme of *professional cultural differences* are classified under this super-theme. That is to say that these problems may be caused directly by *professional cultural differences*, but there are other major causes and influences. It may also be that *professional cultural differences* may contribute to part of the communication problem, but there are aspects of problem which have other causes, and fall outside this super-theme.

3. External to Professional Cultural Differences

Those themes which do not fall under the super-theme *professional cultural differences*. The only theme under this super-theme is *intra-stakeholder group communication problems*. It does not occur between different stakeholder groups but involves the communication between individuals or sub-groups belonging to the same stakeholder group, therefore as it does not occur between different

professional cultures, but within one professional culture, these problems are the focus of this thesis.

4. *Example specific*

Example specific problems, project priorities and factors/ processes that promote successful communication, which were included here for the sake of a holistic overview, and possible further insights. These may or may not be related to *professional cultural differences*, but this is case specific.

5. *Suggestions to promote successful communication*

Suggestions to promote successful communication address communication problems within bottom-up agri-environmental projects and within the agri-environmental sector.

The importance of Professional Cultural Differences

One of the most notable findings of this study was realising the connection between many of the areas in which major communication problems occur (the themes) and the differences in the professional cultures of the stakeholder groups interacting with each other. Originally only *the inter-stakeholder group language barrier* was thought to be due to different professional languages spoken by stakeholder groups, however upon coding the interviews an overarching super-theme began to emerge; *professional cultural differences*.

The super-theme *professional cultural differences* identified within this study is defined as: differences in the professional culture, outlook and attitude in different stakeholder groups, typical for their "line of work" but not necessarily well understood by other stakeholder groups.

Differences in professional mind-sets, preferences and biases affect the way in which individuals approach work, and problems (Janse 2006). Differences in professional culture can have profound affects, in some cases even modulating the way in which

projects are implemented, or even the type of technology used, as seen in the type of biogas plants selected in different areas in Austria, based purely on differences in the professional culture of the farmers in the different locations (Wirth et al. 2013). These differences result in a gap between professional cultures and therefore a need for a bridging of this gap through the fulfilment of roles of individuals or organisations that aim to bridge this interface. This is outlined in the suggestion *bridging role gaps* and supported in the literature, where the importance of “boundary spanners” communicating between different stakeholder groups taking into account specific professional language and communication styles (Harris & Lyon 2013). Harris & Lyon (2013) identified that incentives and disincentives to collaborate vary depending on professional culture, and in order to promote successful collaboration, relationships based on trust between those from differing professional cultures are paramount; this is paralleled by the results of this study. Their paper also recognises a variation in these incentives based on top-down or bottom-up motivation of individuals or organisations.

This overarching super-theme was used to classify themes of communication problems, as occurring either due to *professional cultural differences*, occurring *partially due to professional cultural differences*, or *external to professional cultural differences*. This last super-theme refers to the theme *intra-stakeholder group communication problems*, as this communication does not occur between different stakeholder groups belonging to different professional cultures, but between individuals belonging to the same stakeholder group (e.g. farmer to farmer, scientist to scientist). For an overview of the hierarchical structure of the Super-themes and their corresponding Themes see *Fig. 1*.

4.2.3 Themes

The first 6 themes within this analysis represent major communication problems or areas in which major problems in communication occur. They are the 6 major problems affecting or representing communication that have been identified as occurring within bottom-up agri-environmental initiatives.

Theme 7, is a collection of example specific problems, priorities and factors/ processes that promote successful communication; it occurs under the super-theme *example specific*.

The last theme, theme 8 is made up of suggestions for the rectification of communication and addresses the problems represented by themes 1-6. This theme falls under the super-theme *Suggestions to promote successful communication*.

It must be noted that there are many inter-relations between themes, where one may affect or be influenced by others. Definitions were defined during the coding process. These are illustrated in *Fig. 2*.

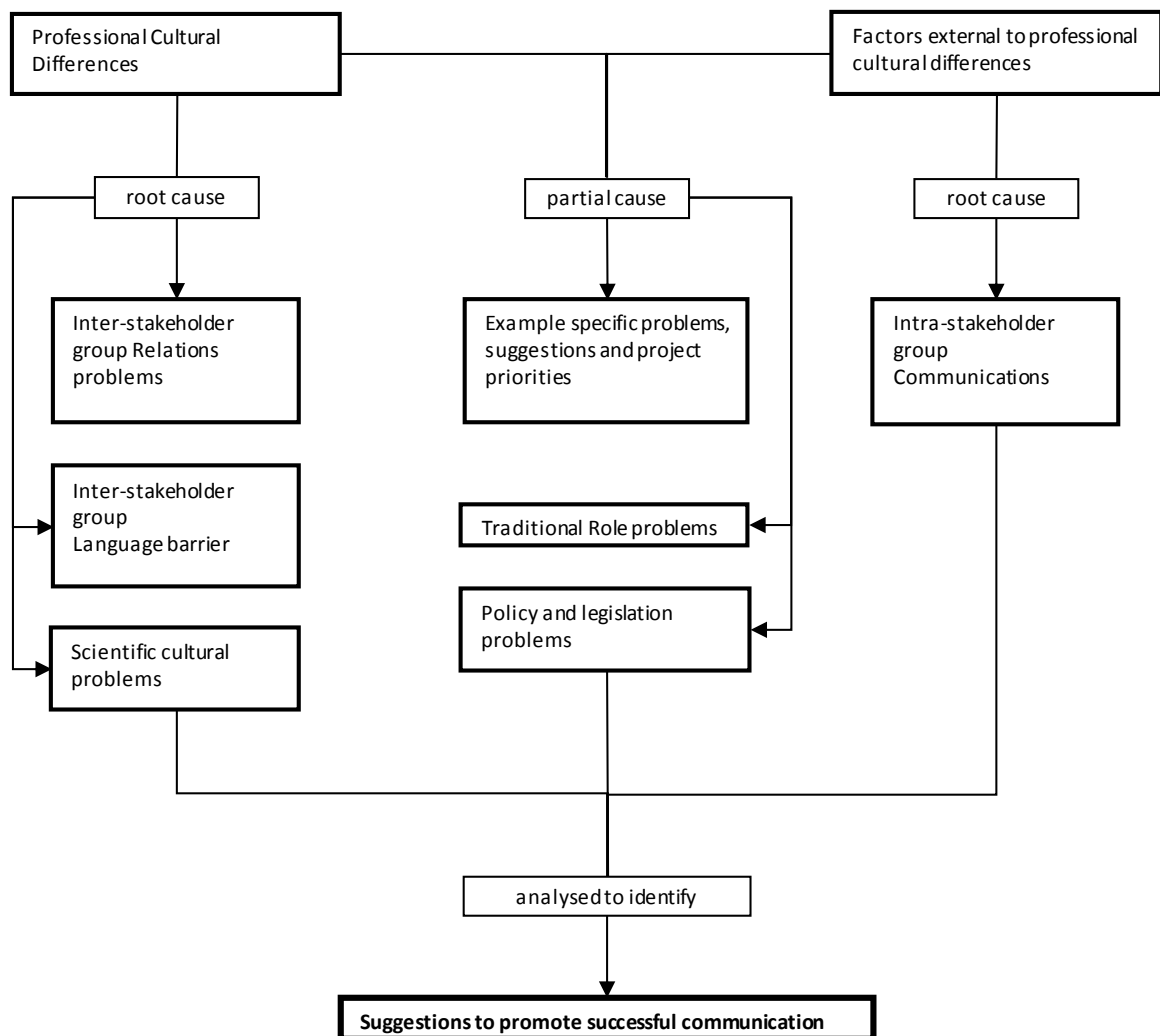


Fig. 1. Conceptual diagram illustrating the hierarchical relationships between identified Super-themes and the Themes that are categorised under them.

4.2.4 Codes

During the template analysis, different types of codes were recognised based on the code's relationship to the themes and communication.

Codes can be conditions or processes; condition codes are those that represent a state, and process codes are those that tend to be in a constant state of dynamic flux.

The 3 main types of codes identified were:

Negative conditions: codes which represent a negative state (e.g. misconceptions).

These types of codes hinder communication.

Conditions: codes which represent a state, the presence of which is positive and the absence of which is negative (e.g. *reputation, respect, trust*). These types of codes when present lessen communication problems (themes) and help propagate good communication.

Processes: codes which represent an ongoing process, the presence of which is positive and the absence of which is negative (e.g. *networking*). These types of codes, when present and carried out well, lessen communication problems (themes) and help propagate good communication.

There are also a few codes which do not fit into this classification system, in which case the type of the code is a logical reference to the relationship the code plays to the theme it falls under. These code types that fall under the theme intra-stakeholder group communication problems are classed as "problems" and "stakeholder group". Those that fall under the theme of example specific problems, project priorities and factors/ processes that promote successful communication are: problems, promoter of communication and communication.

4.2.5 Relationships of codes and themes

There are two types of relationships that a code can have with its associated theme, the first is that the code can affect the theme (communications problem), the second is that the theme (communications problem) influences the code.

These relationships are important to note in order to fully understand the processes occurring within projects, and in order to see if a code can be used towards bettering the state of the theme (communication problem), as an indicator of the state of the theme (communication problem) or if the code (or the presence or absence of it) is a contributing cause of the theme.

Often a code is both affected by the theme and an influence on the theme, in these cases positive feedback loops form. This cyclic nature of some codes can either better or worsen the theme, depending on the nature of the code (negative condition, condition or process).

Codes can be influenced by or can be a result of the state or occurrence of other codes, which can serve to complicate matters, and this needs to be kept in mind.

As codes occur in the states of presence or absence or development (building, identifying, redefining, elimination), this has also been noted when coding responses from the transcripts.

Process codes whose presence has a positive influence on the state of its associated theme, can be applied as to lessen the extent of the problem. The development of these process codes has been called “building” in most cases.

Condition codes whose presence has a positive influence on the state of their associated theme cannot be applied directly to lessen the extent of the problem, because these codes represent the presence or absence of a state. However the process by which these positive states are developed, can be applied to better the state of the theme (communication problem). In most cases this has been called “building” (e.g. the building of reputation, respect and trust).

Negative condition codes which influence the state of their associated theme can be identified as causes or contributors to the theme. These need to be addressed, their elimination can be applied to better the state of the theme.

The presence of process and condition codes that are a result of a bettered state of a theme can be used as indicators of the lessened state of the communications problem.

The absence of negative condition codes that are a result of a worsened state of a theme, can be used as indicators of the presence, or extent of, the communications problem.

The absence of process and condition codes that are a result of a better state of a theme, can be used as indicators of the presence, or extent of, the communications problem.

It has already been noted, but it is worth repeating, that many codes occur under more than one theme; the definitions and relationships of the codes with their corresponding theme is dependent on the thematic context lent to them by the theme they fall under.

Therefore a code that is, for example, affected by and an influencer of *inter-stakeholder group relations problems*, is not necessarily both affected by and an influencer of the *inter-stakeholder group language barrier*, even if it occurs as a code under both.

After the development of the code template and providing definitions for each code within the context of its theme, the codes that were identified as the most influential to communication processes or problems were used to formulate the suggestions for bettering communication. These will be fully discussed under the Suggestions section.

4.3 The Themes: Definitions and Discussion of examples

Within this chapter the themes that were identified during the transcription of the interviews are defined. Each theme is then then discussed in the context of each example; providing information on the example specific situations and findings with regards to each theme.

The Odling i Balans interview had two interviewees and the Latvian example had both a translator and interviewee; to avoid confusion and as most of the interviewees were not native English speakers, the final summaries of the transcriptions were used to provide the interview inserts in this section. These final summaries refer to

the interviewees in the third person (he, she, they) to distinguish between interviewees, and the interviewee codes T and H (Odling i Balans), J (Latvian farm example) and B (Weidelandtschaft Eidertal example). Mentions of the projects in the text are referred to by OiB- Odling i Balans, Eider example- Weidelandtschaft Eidertal and Latvian example.

The following diagram (Fig. 2) serves to provide an outline of the interactions and relationships between the themes discussed in this chapter, in order to lend clarity to the following theme definitions.

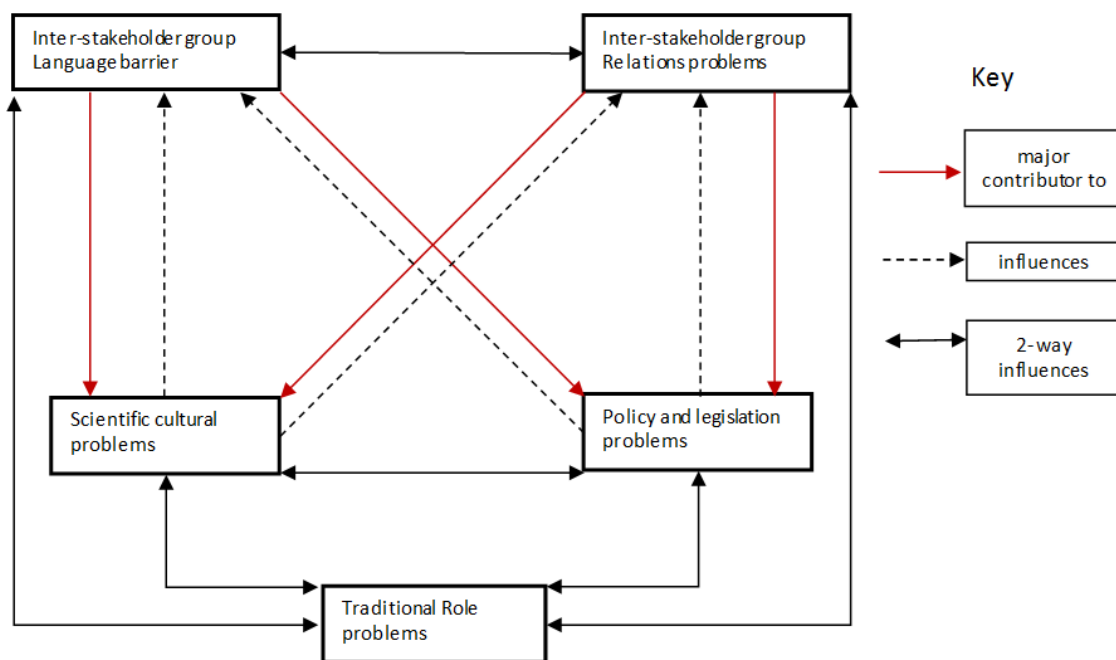


Fig. 2. Conceptual diagram illustrating the complex relationships between Themes that correspond to interactions between different stakeholder groups. This excludes intra-stakeholder group communication problems, as these occur between individual stakeholders belonging to the same stakeholder group (e.g. farmer-farmer interactions).

4.3.1 Inter-stakeholder group relations problems

(Super-theme 1. *Professional Cultural Differences*)

This theme relates to the issues with relationships outlined in the introduction section “Trust and Relationships”. Trust was classified as a code and will be discussed under the theme *suggestions*. Relationships between stakeholders are important to

communication within agri-environmental projects (U. Rammert, 2013, pers. comm.), are often highly complex (Reed et al. 2009), can take years of interaction in order to build (Davies & White 2012) and can be crucial to the success of agri-environmental schemes (Robinson et al. 2006). Relationships can also provide a platform from which stakeholders can learn from each other (Reed 2008); overall there is a wealth of literature stating the importance of relationships and this is reflected in the findings from this study, outlined in the following paragraphs.

Inter-stakeholder group relations problems definition: Problems with the relationships between different stakeholder groups, which arise due to *professional cultural differences* between them. All of the associated codes either influence the state of relations and/or are a result of the state of relations, this may be dependent on the example.

Influences: *Inter-stakeholder group relations problems* are a major contributor to the themes: *scientific cultural problems, traditional role problems, policy and legislation problems* and to a lesser extent the *inter-stakeholder group language barrier*.

Although the *inter-stakeholder group language barrier* can be lessened by better relationships between the stakeholders involved, this will not eliminate it entirely.

Thus the conditions and processes that are the result of relationships, or influence relationships can be seen to a greater or lesser extent within the other problems.

Affected by: *Inter-stakeholder group relations problems* are affected by the state of the following themes: *the inter-stakeholder group language barrier, scientific cultural problems, traditional role problems* and *policy and legislation problems*.

A change in the state of one of the listed themes will not necessarily change the state of relations between all stakeholder groups, it will only affect the state of relations between the stakeholder groups involved, for example, a better state of *scientific cultural problems* will only result in better state of relations between the scientists and other stakeholder groups involved, and not better relations between other stakeholder groups.

Inter-stakeholder group relations problems in the Examples

OiB has spent a lot of time cultivating strong relationships between their different participating stakeholder groups. Even in the very beginning of its formation members and pilot farms were chosen based on reputation, with much emphasis placed on networking. "Pilot farms were picked which had a good reputation and good economic situations. Pilot farms provided contacts from their well-developed networks. Both the one full time employee and the farms' network provided contacts for OiB. The financial sponsors also provide connections. The relationship with the University also provided connections. We use all these contacts to open doors."

Through this statement an idea of the time and work OiB has invested in making and maintaining good relationships can be seen. When questioned about how the relationship with the Swedish University of Agricultural Sciences (SLU) was established H answered "You have to build up a reputation, which takes at least 10 to 12 years." Thus the timescale upon which these relationships was built is important, and takes years. H mentions the one permanent staff member to whom he credits a lot of OiB's success and who was "carefully selected, qualified and respected within the agricultural sector." This employee takes care of practical organisation and is involved in a lot of the networking and gaining contacts for OiB, which they deem as very important. He contacts individuals and institutions which may find a project being undertaken by OiB interesting, thus forming connections through the identification of mutual interests.

OiB's board members are from different stakeholder groups "many of whom can make objective decisions even if these do not benefit their specific stakeholder group" which demonstrates the diversity of the organisation.

With regards to OiB's respected reputation H states that "OiB is independent from sponsors and other organisations; this helps with reputation. One thing about this organisation is that we are not officially connected with anybody. This means no one can claim we are serving any other company or organisations because they are not "working" for anyone." He believes that this independence, and essentially empowerment, is key to being a trusted organisation. This has resulted in OiB often being consulted to provide data to resolve conflicts, and being included in ministry

questionnaires requesting OiB's opinion regarding various issues; their concerns (on certain topics) are even taken into account when new policies are being developed. However "OiB reserves the right to refuse requests, if thought not to be a relevant question or request" therefore maintaining their independence and their reputation and institutional trust.

OiB believes the relationships between all stakeholder groups involved are based on trust and mutual respect, and has no serious relationship problems occurring between stakeholder groups.

In the Latvian example, J states that "There are conflicts between different stakeholder groups in Latvia" and believes that in Latvia "relationships between stakeholders and the roles of stakeholders are impeded by poor communication and that not enough information is available for the farmer. It is hard for a farmer to start an agri-environmental project because there is not enough information and there is so little support."

The relationship between farmers and policy-makers and administrators seems strained with J reporting that "it seems like the environmental control and environmental ministry are more interested in not approving projects and that they are the most anti-green organisation." This statement in itself makes it clear of the opinion J holds; it is not within the scope of this thesis to ascertain the truth of this statement, and if based in truth the problem runs deeper than just communication. However, if this opinion is based on a misconception it highlights an urgent need for better communication processes to explain to farmers like J, the reasons behind the strict approval protocol, and the reasons for which a project application may be turned down. This provision of much needed information to the farmers would provide a basis from which to form some kind of functional professional relationship, because as it is, J states that "there are so many rules and regulations that it discourages farmers from undertaking a green initiative, because the people who inspect it have so many rules."

J states that Latvian farmers are misrepresented in the press which has affected the public's view towards them, and retorts "farmers are not the kind of people to fight the press. Perhaps this is a fault with the farmers for not being interested in

defending themselves.” It is not lost on him the importance of communication in the building and maintaining of institutional, or stakeholder group reputation; he goes on to say that “to rectify the problem of farmer’s reputation, farmers need to be publically open, so that the public can see what happens on the farms, and see the facts in reality. This way people will learn not to trust what they hear or see in the press. It will raise other issues though trying to get the people to go to the countryside.”

J’s frustration with scientists in general, in itself, could be an indicator of poor farmer-scientist relations in Latvia, certainly with regards to his agri-environmental projects. Statements were made that highlight a lack of communication with the scientific community, whether the statements are true or based on misconceptions is not within the scope of this study to ascertain, however either option is horrifying in its own right. These include a. “the same research is being repeated, in Latvia that has already been done elsewhere, just to make money on the same research, and that none of this is being shared” b. “scientists get all these grants, undergo research in the lab and it never gets tested in the field, if it does the farmer never sees the credit. The farmer gets used and abused and gets no benefit, then scientists say that it has been tested and implemented on farms, but it has not.” Both of these statements are indicative of J’s personal opinion that the scientific research being undergone is driven primarily by financial gain; again this may or may not be true and seems to be characterised by an opinion that the researchers themselves take advantage of farmers and provide no mutual benefit, either in the form of monetary support or relevant practically implementable research.

A second statement by J was made which may be indicative of a possible lack of understanding of the scientific process, which again would point towards a poor communication interface between farmers and the scientific community in Latvia. “There should be only one theoretical lab in the whole of Europe; that’s it. Scientists could decide where, and then there should be many practical labs in every country involving real farmers and the data from these goes to the theoretical lab.”

There is no denying that from J’s standpoint the scientific community is not providing quality communication either in terms of networking and relationship building, or in

terms of agri-environmental communication providing for the informational needs of the farming community. Farmers that may want to start up an agri-environmental initiative do not have access to relevant data. This will be further discussed under *scientific cultural problems*.

In summary, relationships between different stakeholder groups in this example, and if this example reflects the situation elsewhere in the country, then in Latvia in general, seem to be in a poor state. Problems in reputation and trust are prevalent, both of which lead to a lack of respect for other stakeholder groups and the roles they play.

It does seem however that the relations between J and the Latvian Farmers' Parliament are strong; this may be due to micro-level trust between J and the individuals Zanda Kruklīte and Maira Dzelzkaleja who work for the Latvian Farmers' Parliament. This trust between individuals may have in turn developed into institutional trust.

The Eider project example was characterised by a specific project priority of communication, with B acting as a coordinator between local projects. She worked as a communicator, making sure that all stakeholders, and thus all stakeholder groups, involved were fully informed. Through this B developed and built micro-level trust and relationships between herself and the individual stakeholders involved, and this provided a foundation from which strong professional relationships developed, followed by institutional trust. Like OiB this development took time; the project ran from 1999 to 2004. B's personal and professional background helped to develop this micro-level trust. She stated that her "diverse background, coming from a farm, having my hunting license, botany apprenticeship and knowing a lot about farming, I acted as the bridge between the different stakeholders" and she provided awareness of opportunities available for implementation-level stakeholders. Over time B gained respect from not only the stakeholders actively involved in projects but from the communities in the areas as well; however "there was more work than was possible to undertake with only four employees; there could have been 3 more employees and full time jobs." It must also be noted that B's ability to speak Platt-deutsch "also served to show that I was from the same background (or world) as the farmers, and helped with acceptance by the farmers."

Participation processes included much discussion as well as the provision of information for the stakeholders, with an emphasis on connecting the different stakeholders.

B reported “conflicts between the hunters and the nature conservation people, as there were many more rules and regulations introduced, with species restrictions (no birds, only roe deer) and having to hunt with bullets not made out of lead,” which she thought could have been handled better.

Relationship building was of importance in this project, as previous measures towards wetland restoration in the area had been met with resistance from the farmers, land-owners and community, which was why this bottom-up orientated project, focusing on communication and relationships was started.

In summary, over time the project worked hard towards gaining the trust of all individual stakeholders involved as well as the communities, via communication and participation processes, through which strong professional relationships were built.

4.3.2 The inter-stakeholder group Language Barrier

(Super-theme 1. *Professional Cultural Differences*)

This theme was based on the introduction section entitled “Working language barriers” and the research questions associated with the section were classified as codes. Incidents of language barriers occurred in all three examples to a greater or lesser extent; these are outlined in the example sub-sections below; included are those aspects of the language barrier (terminology, word use, communication style) which were or are most problematic for each project. Ways in which the language barrier was lessened or dealt with have been included, but will be expanded upon in the suggestions section. The findings support those of the literature outlined in the corresponding introduction section.

The inter-stakeholder group Language Barrier definition: The language barrier that occurs between different stakeholder groups falls under the super-theme *professional cultural differences*. This language barrier is not usually due to a difference in language in the usual sense, but a difference in the specific professional language

spoken by different stakeholder groups, arising due to differences in terminology used and often different definitions of words depending on the professional context in which they are used. This division is widened by the use of different methods or styles of communication and information distribution platforms.

Influences: The state of the *inter-stakeholder group language barrier* is a major contributing factor to the following other themes: *inter-stakeholder group relations problems, scientific cultural problems, traditional role problems* and *policy and legislation problems*. Therefore the elimination of the language barrier would greatly lessen the all of the other theme problems (excluding those which are not inter-stakeholder communication problems) and should be a top priority.

Affected by: The *inter-stakeholder group language barrier* is a result of the super-theme *professional cultural differences* and the state of the language barrier may be influenced (to a lesser extent) by the following themes: *inter-stakeholder group relations problems, traditional role problems, policy and legislation problems* and *scientific cultural problems*.

The inter-stakeholder group Language Barrier in the Examples

The statement “The language barrier between farmers of OiB and other stakeholder groups is much less of a problem because the farmers involved are atypical; they are open-minded, well-informed entrepreneurs, with a drive to be the best,” best describes the state of the *inter-stakeholder group language barrier* within OiB. Farmers that are members of OiB have both environmental awareness and higher level knowledge about the environment and its functions; these form the basis on which OiB was formed. There is however, a barrier between OiB and some non-member farmers when it comes to communicating; this is not so much based on language barrier, but involves other farmers dismissing ideas from OiB farmers. Therefore in order to communicate ideas and results to other farmers “OiB uses the advisory board to communicate results with farmers who are not part of OiB. This lowers the language barrier”, providing OiB’s solution to getting around this barrier.

OiB itself acts a bridge, and essentially a translator, between stakeholder groups, actively lowering the language barriers between them; they “communicate by using a metaphor of farms functioning like a box, where all inputs and all outputs are

measured, and differences can be easily communicated to all stakeholder groups.” H and T go on to say this method is easy to understand for farmers and politicians alike.

Another method OiB applies when communicating with farmers about results, agri-environmental measures and technology, is lessening the language barrier by “addressing ideas and changes in money- as this is the priority of the farmer the environmental benefits are a bonus (to the farmer); but when speaking to the community, the environmental benefits are the priority; so communication needs to be target audience based. One needs to think about who one is communicating to and communicate accordingly.” This statement highlights an important factor of inter-stakeholder group communication: target audience based communication; using empathy to view a situation according to the recipient of the communication, and formulate the message in a language and context that the recipient will understand and which puts their priorities first.

OiB stresses that when communicating about changes to be made to farmers, “changes need to be communicated in money, how much saved or made,” keeping true to their aim of both environmentally and economically viable farming, adding that “Making changes will be sustainable, only if they are profitable. Profit does not always have to be money, it can be making a profit of the resources.” This summarizes the way in which OiB approaches the language barrier and communicating between stakeholder groups.

In the Latvian example, J acknowledges that there are language barriers. Some of the statements outlined in the previous section representing misconceptions as well as indicating a poor set of relations due to poor communication, may also be indications of a language barrier.

The scientific language barrier J faces was lowered via the Latvian Farmers’ Parliament, where Zanda Krukliete and Maira Dzelzkaleja acted as translators of information, rendering scientific information practically implementable. The scientific language barrier will be discussed in further detail under the following theme.

With regards to policy and regulations J believes there is simply too much, and too many ways to interpret these, stating that “there are too many rules and regulations

and they are misinterpreted or interpreted according to the way the country needs them to be, and they are lost in translation. The rules for a green project are two books long; they need to be the size of a pamphlet.” This may indicate a language barrier as the regulations do not seem to be well understood.

He states that he feels that in Latvia “the processes of communication are in an infant state. For example when compared to Denmark, where information is shared and it is easier to find resources. Latvia is still developing towards information sharing and communication; it is not bad or good; it is in a state of development”. This emphasises the need for a focus on communication. There is also a need to “facilitate better communication with the scientists and/or the bureaucratic circle, and emphasise on communicating person to person.”

The Eider example as already mentioned had a focus on communication, and essentially eliminated *inter-stakeholder group language barriers* by installing a translator in the form of B. This process was in no way easy, and took time. As with the development of relationships, B’s diverse background ensured her understanding and fluency in the different professional languages spoken by different stakeholders; B states “there is a working language barrier, with scientists using Latin names for plants etc... It was important for me to be able to “speak farmer” and “speak hunter” and also speak with researchers. Speaking some Platt-deutsch was very useful at the round-tables where it was spoken by the farmers and locals. This was a door-opener.”

With regards to the scientific language barrier B “recognised a different word use when scientists attended round tables, and acted as translator. When scientists attended round tables I had to act as the bridge when they spoke about their work.”

B does emphasise that within the project, and in general there is a need for more translators spanning the boundaries between these different professions, and that everybody should do it. She says that “There needs to be a change of mind-set; individuals need to think about who they are going to be speaking to when preparing an excursion or a presentation. People should talk to the region before they hold a presentation to properly prepare, at the real communication level. One could even

hold a preparation presentation in front of one of the local people.” This once again brings up the idea of target audience based communication as an important aspect to keep in mind when working towards eliminating language barriers.

4.3.3 Scientific cultural problems

(Super-theme 1. *Professional Cultural Differences*)

The theme *scientific cultural problems* encompasses problems relating to both scientific culture and the scientific language barrier. This theme was not specifically outlined in the introduction and arose as an area of interest during the coding process. It encompasses research questions relating to the introduction topic “Information availability and relevancy” as the information in question here is that provided by the scientific community to implementation-level stakeholders. In the introduction section the research questions to be addressed were; 1. the availability of information; 2. the practical relevance of this information provided; 3. the inclusion of implementation-level knowledge in research processes. These were classified as codes in the template, during the template analysis, and fall under this theme (as well as that of the *inter-stakeholder group language barrier*). Several codes relating to the “Incentive” section of the introduction also fall under this theme. As outlined in the introduction, problems with information availability and practical relevance of information were present in in some examples (findings outlined below), and in one example the inclusion of implementation level stakeholders in the research process was used as a solution to both of these problems (as outlined in the description of OiB).

Problems in the interface between policy and science, due to scientific culture are outlined by Janse (2008), where research is undertaken but not used due to incomprehensibility or non-relevancy, indicating a failure in the supply and demand needs for scientific information. This problem can be seen in the farmer- scientist interface as well, as shown in the findings below. A problem with the attitude among scientists is also described; reward is provided by research institutions based on publications, and there is a lack of incentive for the uptake of new research topics (Janse 2008). This supports the findings below.

Scientific cultural problems definition: These problems arise due to the professional culture of the scientific community, specifically the traditional structure by which research is undertaken and published; research is typically funding driven and theoretical, which renders it, most often, not very practically implementable; this is further exacerbated by publication occurring in scientific language in journals with limited accessibility.

At this stage the research process ends, and research which has the potential to be useful at implementation level is often not carried any further than a theoretical or laboratory based study, and this is then shared with the scientific world via journals which are often not accessible to the public.

Really there should be a continuation of the research process, by which information is rendered practically implementable (through farm testing and implementation); after which this information needs to be distributed in an easily understandable form (language) and made accessible to other stakeholder groups.

However, there is no incentive for this, because of the structure of traditional scientific culture and the research process.

Scientific cultural problems encompass the interface between the scientific community and other stakeholder groups; this interface is made up of scientist-stakeholder relations and scientist-stakeholder language barrier. It can therefore be viewed as a hybrid between the two previous themes: inter-stakeholder group relations problems and the inter-stakeholder group language barrier.

As such, many of the conditional and process codes seen within *scientific cultural differences* are those that fall under *inter-stakeholder group relations problems* and the *inter-stakeholder group language barrier*. It must be noted that these shared codes may affect the two aspects (relations or language barrier) of scientific cultural problems differently, as according to the relationships of the codes and the relevant theme.

For example, the presence of the code *reputation, respect and trust* will greatly affect the relations between the scientific community and other stakeholder groups but will

not directly affect the scientific language barrier, although it may slightly lower it indirectly through its positive affect on relations.

Therefore condition/processes codes that affect the state of *theme inter-stakeholder group relations problems* one way will affect *scientific cultural problems* similarly. However if this code is only a result of and not an influence on the *inter-stakeholder group language barrier*, it will still influence the relations within the *scientific cultural problems* but not the scientific language barrier itself.

Within the scope of this study, *scientific cultural problems* that occur between the scientific community and implementation-level stakeholders were those of most interest.

Even though *scientific cultural problems* are a hybrid of two themes, it has been categorised as its own theme, because differences between scientific professional culture and that of other stakeholders gives rise to a unique set of condition and process codes that represent the challenges within the interface between scientists and other stakeholder groups, not seen within either *inter-stakeholder group relations problems* or the *inter-stakeholder group language barrier*.

Influences: *Scientific cultural problems* influence the following themes: *inter-stakeholder group relations problems*, *the inter-stakeholder group language barrier*, *traditional role problems* and *policy and legislation problems*. It must be noted that the two aspects that make up *scientific cultural problems* (relations and the scientific language barrier) may each influence the other themes with different emphases.

Affected by: The state of *scientific cultural problems* is greatly affected by both *inter-stakeholder group relations problems*, *the inter-stakeholder group language barrier*, and affected by *traditional role problems* and *policy and legislation problems*. It may also be influenced by *intra-stakeholder group communication problems* within the scientific community, however this falls beyond the scope of this study. It must be noted that the two aspects of *scientific cultural problems* (relations and the scientific language barrier) may be affected with different emphases by these themes.

Scientific cultural problems in the Examples

OiB has addressed scientific cultural problems by developing a relationship with the Swedish University of Agricultural Sciences, a process which took 10-12 years. H says “OiB has a good relationship with the University, where they can send projects to be undertaken by students, and OiB has a two-way communication process with them,” indicating that the information flow is not only from the research community to OiB, but that they have facilitated a two-way exchange of valuable information. H also states that “There is no problem obtaining research, understanding research or with the practicality and relevance of research, because OiB is the instigator of the research, and is part of the research process with the university. When the research is nearing the end of a project, OiB uses their input, to influence how they formulate or present their results, to make it easy to communicate with farmers and politicians etc.” Thus this two-way communication has addressed the problem of obtaining practically implementable research. OiB renders the results and information understandable and it is presented in a common language. The incentive for scientists to collaborate is in that they can use the pilot farms, which are set up to measure all inputs and outputs, to collect data, take measurements and test projects; this is the benefit for the researchers who are involved in OiB.

Again there is use of the “farm is like a box” metaphor where all inputs and outputs on the farm are measured, making it easy to communicate the changes made by the implementation of a process on the farm. Using this OiB bridges the gap between the scientific community and the farmers; information is distributed through the advisory boards and the scientific language barrier has been lowered.

This statement from the interview provides a summary of the state of *scientific cultural problems* in OiB “OiB is the bridge, trying to find new solutions, new ideas which are tried on the farms, and if the idea is something that's really interesting to spread, we send it to the University or some other institution, to work on, often as an exjob for students who continue to work on it.”

In contrast to OiB, in the Latvian J feels that “there is no problem with the correct research being undertaken; the main problem is that the research is not accessible. Research needs to be shared. There is a problem with research being undertaken for

example in Denmark and then the same research being undertaken in Latvia,” J believes “This is just to make money.” He also shows disillusionment with the research process and is frustrated with the repetition and lack of distribution of information. He characterises the source of this problem as “the issue (being) communication within the scientific environment.” This highlights his view of a problem with *intra-stakeholder group communication* within the scientific community, which is a possibility.

The statements discussed under the *inter-stakeholder group relations* theme regarding J’s opinions about researchers “getting all these grants” and “using and abusing” farmers in order to undergo farm tests which are not carried out thoroughly enough, and finally repetition of research which has been undergone elsewhere purely to make money, are worrying with regards to this theme as well. These statements either quantify just how deep the funding-driven scientific culture runs, especially with regards to Latvia, and how isolated the scientific community is from reality; or alternatively if entirely untrue, this demonstrates that the communication between the scientific and farming communities (in Latvia) are in a very poor state indeed, or possibly no communication is taking place at all. If communication is taking place, then the language barrier is a major problem. Again the truth of these statements is beyond the scope of this thesis to ascertain, but this can be viewed on a continuous scale; that is to say these statements may be exacerbated by preconceptions, but these preconceptions may not be entirely based on false-truths.

Zanda Kruklite and Maira Dzelzkaleja with the Latvian Farmers’ Parliament are involved in helping to translate information from scientific language in collaboration with J. He feels that “research provided needs to be in “common language” easier to understand, not dumbed-down, but presented better. It needs to be in a language that is not so scientific, with so much industry jargon. ...Scientists need to make research easily understood, simple and not overcomplicated; scientists like to make things overcomplicated just to show they are smart.” This clearly highlights the need for language barrier elimination. With regards to practical relevance of research J states “...scientific research needs to be done in the field in reality, not in the lab because the lab is nothing like the environment and not comparable to reality. There needs to be

demonstration farms on which this occurs and other farmers can view how solutions are implemented. There has to be a farmer implementing these, not a governmental organisation or a farm owned by the government.” On a separate occasion he emphasises his belief that “Scientists should not be working entirely in labs; they need to step outside of their comfort zones; everyone should step out of their comfort zones a little.”

J’s suggests “The best way to solve the scientific language barrier and research applicability is to facilitate better communication with the scientists and/or the bureaucratic circle. There needs to be emphasis on communicating person to person and less emphasis on the theory. There also needs to be more demonstrations and practicals.”

It must be noted that J completed his tertiary education as and worked as a veterinarian; he is therefore not unacquainted with scientific culture, or the idea of scientific language; this should therefore lend some weight to his statements.

In the Eider example, scientific information was supplied to the implementation-level stakeholders by B, who herself has a scientific background. She sourced relevant wetland restoration information through her personal contacts (with the Ernst-Moritz-Arndt-Universität Greifswald) as well as those of the project (the Christian-Albrechts-Universität zu Kiel). She mentions the work of Prof. Succow (Ernst-Moritz-Arndt-Universität Greifswald) as being especially relevant in terms of practical implementability and in making research available.

The projects relations with the scientific community were well maintained as various researchers were involved in the project.

However B does acknowledge that “there is a working language barrier, with scientists using Latin names for plants etc.” and that she “worked as the bridge between the scientific world and the farmers and community, providing information and options for the community, working in the role of translator, raising awareness and opening the community’s eyes to new ideas.” She believes there needs to be more people bridging this gap and supplying information to the farmers. She also states that “the topic of correct research being undertaken is a sensitive one, however in general I wish that the research undertaken was more practical; the people involved

are nice and open to connecting with the areas, however sometimes the research provided was not that useful." At round tables she noticed that "when there is someone who only talks about theoretical things the local people cannot relate, and feel that it doesn't relate or apply to the practical, application on farm-level. Scientists believe that if it is not theoretical then it is not scientific enough." This indicates a need for better communication and two-way communication processes in general.

The more press and television coverage wetland restoration received, the lower the language barrier with the farmers and the communities became, as the environmental awareness was raised through media that used common language and not necessarily scientific language.

In summary B believes that "For the future of the agri-environmental sector there needs to be more people involved in communication and connection as bridges and translators, and research needs to have a practical approach and be implementable as opposed to theoretical.... It is important to have people who understand both scientific (biological) level information and farm-level information. This is the first step towards respecting each other." Over time the scientific language barrier was lowered through raising environmental awareness and the project's constant focus on communication. The long duration of this project should be noted, and therefore the timescale upon which this problem was rectified.

4.3.4 Traditional role problems

(Super-theme 2. *Partially Professional Cultural Differences*)

The introduction section entitled "Problems with the roles of different stakeholder groups within bottom-up agri-environmental projects" was classified as this theme, with aspects outlined in the introduction forming the codes on which this theme is based. The findings were in support of those outlined in the introduction section as identified from the literature; these are discussed as according to their occurrence in the project examples.

Definition *Traditional roles*: refers to those roles that are typical within a top-down project. For example policy-makers have the roles of the initiators and designers of the project; they send commands down the chain of command and farmers are the

implementers. In bottom-up projects farmers play the role of initiators, designers and implementers of the project. In bottom-up projects the roles of the different stakeholder groups change and this calls for a reallocation and redefinition of roles.

One of the keys in reforming the structure of collaborative projects via better communication processes is the change of the role of participatory stakeholders from those that are traditionally designated to them, to a role better fitted to their skillset or knowledgebase, or alternatively stakeholders taking on a new role, where there is no group already performing a necessary component or process (U. Rammert, 2013, pers. comm.). However traditional roles are very ingrained as they have been implemented for so long, and often stakeholders are unused to the new role in which they have been placed, especially with regard to those in traditionally "top" roles, where the task and role expected from them is very atypical.

Therefore often, even within "bottom-up" projects there are some traditional roles that are implemented, even though there is no need, or niche for them within the project. This causes role problems. *Traditional role problems* are related to the state of relations, and the language barrier and fall partly under the super-theme *professional cultural differences*. This is not however, as mentioned in the previous paragraphs, the only root-cause of role problems.

Influences: *Traditional role problems* affect the state of the following themes: *inter-stakeholder group relations problems, inter-stakeholder group language barrier, scientific cultural problems and policy and legislation problems*.

Affected by: *Traditional role problems* are influenced by and directly related to the state of the theme *inter-stakeholder group relations problems* and influenced by the themes: *inter-stakeholder group language barrier, policy and legislation problems and scientific cultural problems*.

The condition and processes codes under traditional role problems include all those that fall under inter-stakeholder group relations problems, as well as those unique to this theme.

Traditional role problems in the Examples

Within OiB and Sweden in general H acknowledges that “there are some problems with the roles of different stakeholder groups, however, it is a sensitive topic.” There are, however, ways in which OiB has facilitated better role allocation and reclassification.

As mentioned previously OiB acts as a bridging organisation between different stakeholder groups, translating information, distributing information and working as a mediator between stakeholder groups. OiB is made up of farmers (implementation level) who instigate research to be undertaken, as well as testing ideas. These are all non-traditional roles for implementation-level stakeholders which are carried out by OiB. The final role OiB plays is as a role-model for the LRF youth (The Federation of *Swedish* Farmers youth group), who “are keen to find new and innovative ways to farm.” H also states that “there needs to be a mind-change in the community as to the role of farmers in society, (from their reputation as polluters, to the providers of food and as part of environmental solutions). The public needs to be better informed, and OiB tries to show this on their demonstration farms”.

These new roles were only possible to adopt due to the good relations that OiB built up with its participating stakeholders, and due to the reputation OiB built up and maintains, of remaining independent. Also an important factor of OiB is the identification of mutual interests of the different participants and the provision of mutual benefits; the benefits of the scientific community were already outlined under the theme *scientific cultural problems*.

The benefits provided by OiB to the ministry and farmers union are outlined in the following statement, which also outlines a role change. “The ministry and farmers’ union have new non-traditional roles within OiB, implementing two-way communication. They seek the advice and aid of OiB and send ideas down to OiB.” This is a non-traditional role, as usually implementation level-stakeholders are not consulted for their opinion or advice; it indicates stakeholders’ institutional trust in OiB, and their role as advisors and an important source of information.

The various farming advisory boards in Sweden act as information distribution channels, getting information from OiB to the farming community; they are a part of

OiB and provide a way around the complexities of *intra-stakeholder group communication problems* within the farming community. Where ideas coming directly from OiB (without having been first consulted) would be dismissed by other farmers, the “advisory board takes the role of a trusted distributor of knowledge (knowledge broker).”

The perceived role of farmers within society, as held by that of the community, needs to be addressed, and H and T suggest that the media has a role to play here “by reporting positive news and not only negative news (with regards to farmers and farming and the environment)” and that interactive educational games for children may help with this change of mind-set; they specifically mentioned online computer games.

OiB has a well-defined, but flexible structural organisation; the board, as explained by H “has members from many different stakeholder groups, many of whom can make objective decisions even if these do not benefit their specific stakeholder group. They take on new roles specific to OiB....Active stakeholder groups vary dependant on what types of questions are on the agenda at the time. Therefore roles are flexible.”

In Latvia it seems that the traditional top-down roles are still prevalent and J puts this down to “relationships between stakeholders and roles of stakeholders are impeded by poor communication; not enough information is available for the farmer. It is hard for a farmer to start an agri-environmental project because there is not enough information and there is so little support.” He recognises a need for role changes and states, “there needs to be role redefinition”, especially emphasising, “Scientists should not be working entirely in labs; they need to step outside of their comfort zones; everyone should step out of their comfort zones a little.”

There has been a role change in the Latvian Farmers’ Parliament, with Zanda Kruklite and Maira Dzelzkaleja acting as translators of scientific information.

J believes “in order to redefine roles there needs to be more conferences and symposiums; these need to be international (involving all European countries) and need to be accessible.” J compares “green culture” to popular culture and rock concerts. He says that “green culture needs to reach the same level; there needs to be a symbiotic relationship between popular culture and green culture, or green culture

should be the popular culture. It needs to reach the community and they need to be included.” He essentially states that “green culture” itself should play a larger role in society.

In Latvia, like in Sweden, there is also a problem with the perceived roles of farmers within society, held by the community. J believes that this is due to misrepresentation in the press, and farmers “are not the kind of people to fight the press.” He suggests that “to rectify the problem of farmers’ reputation, farmers need to be publically open, so that the public can see what happens on the farms, and see the facts in reality. This way people will learn not to trust what they hear or see in the press.” But he then adds that “it will raise other issues though trying to get the people to go to the countryside.”

In the Eider example, the state agency, for which B worked, took on a non-traditional role; B and her colleague in the field were the representatives for the state agency and they carried out these new roles. As communication and collaboration was a main focus of the project, B (and her colleague) acted as the bridge between the different stakeholder groups, facilitating these aims of communication and collaboration. It can be viewed that the success of the project was in large part, due to B’s efficiency as this bridge due to her interdisciplinary background.

B believes that “the traditional roles of different stakeholder groups do have to change, especially within bottom-up initiatives.”

Especially of note, was the new role taken on by the Wasser und Boden Verband (WVB). The representative of this organization which was involved in the initiation of the project, acted as a mediator between stakeholder groups; as he was both a farmer and a member of the WVB he worked to represent both, and was well respected and trusted by the different stakeholders. He helped farmers and the community to understand the aims of the project.

B emphasises the importance of bridging the gaps between different stakeholder groups, and believes that more people should be fulfilling the role of “connection as bridges”.

Another role that B performed was that of facilitating the empowerment of the communities and farmers she worked with, through the provision of information and awareness. This is illustrated well by an occasion she described, in which the press was covering the wetland restoration of an area where she worked; she “used her intuition to decide to stay in the background; the community needed to take ownership of the process, their region, their heritage, and their responsibility to take care of their area. As projects end and I have been relocated, the community needed to be empowered to carry it on themselves. The community needed to be proud of what they have achieved.” In this way credit and recognition to the community was provided through press coverage.

4.3.5 Policy and legislation problems

(Super-theme 2. *Partially Professional Cultural Differences*)

This theme was not outlined in the introduction, however quickly arose as an area of importance during the coding process; it encompasses many facets of the categories outlined in the introduction, such as misconceptions and incentive. As many agri-environmental projects, even those that are bottom-up, have to comply with regulations and are heavily influenced by governmental incentive, problems occurring in the interface between the policy-maker and administration community and other stakeholder groups (as well as problems in the actual policy and legislation) are contributors to communication challenges faced by these projects. Challenges and aspects of these interfaces between the policy-making and administration community and other stakeholder groups are widely documented in the literature (Janse 2006; Janse 2008; Janse & Konijnendijk 2007; Prager & Freese 2009; Harris & Lyon 2013; Welp et al. 2006), and findings within this study reflect those found in the literature.

Policy and legislation problems are those which occur between the policy making and administration community and other stakeholder groups. Falling partially under the super-theme of *professional cultural differences*, which is one cause for these problems but not the only root-cause. This theme also highlights actual problems in policy and legislation from the perspective of implementation-level stakeholders.

This has not been fully explored within the context of this study but was, however, included for a holistic overview of the topic.

Influences: *Policy and legislation problems* influence the following themes: *inter-stakeholder group relations, the inter-stakeholder group language barrier, scientific cultural problems* and *traditional role problems*.

Affected by: *Policy and legislation problems* are affected by the state of *inter-stakeholder group relations, the inter-stakeholder group language barrier, scientific cultural problems* and *traditional role problems*.

This theme can be viewed as a category comparable to the theme *scientific cultural problems* a collection of codes that occur under other major problems, as well as some unique to this category alone.

Various conditions and processes that are related to *inter-stakeholder group language barrier, inter-stakeholder group relations problems* and *traditional role problems* apply to this category, as well as those relating to this theme alone.

Policy and legislation problems in the Examples

H states that “One of the main aims of starting OiB was to show the Government or agricultural decision-makers that conventional farming can be undertaken in an environmental friendly way in the long run.”

Although few conflicts occur within OiB, H mentions that there is still some conflict with the “chemical inspection people”. He also says that “it depends a lot on the people working for the community who are checking the farms” and whether or not they are fair.

Other than that, the main issue with policy and legislation OiB has, which they report is echoed in the opinions of other Swedish farmers, is the sheer volume of regulations and legislation and that those issued by the EU “are interpreted differently from one country to the next” with too much room for interpretation. “There are so many contracts, business contracts, insurance policies, rules and regulations that are written, so that it takes a lawyer to know what is intended....write the rules so that there isn’t room for interpretation.” This difference in the interpretation and

therefore implementation of EU regulations, T and H report is a source of unfair competitiveness between countries, especially with regard to farm products.

The sheer volume of regulations leads to a great quantity of paperwork and farm administration, even more so when it comes to composting.

OiB's good relationship with the ministry does mean that there is a two-way communication process between them, and OiB is consulted on certain matters; their opinion matters and they are also consulted to investigate certain issues brought to their attention by the ministry.

J reports that in Latvia "it seems like the environmental control and environmental ministry are more interested in not approving projects, they are the most anti-green organisation." J is frustrated and is not sure "if they are just trying to be overly bureaucratic, but I do not know." He reports conflict with the "environmental inspection people."

He echoes the concerns of OiB that there are too many rules and regulations, so much so that he reports "it discourages farmers from undertaking a green initiative, because the people who inspect it have so many rules...The rules for a green project are two books long, they need to be the size of a pamphlet." He too voices concerns that these regulations are "misinterpreted or interpreted according to the way the country needs them to be; they are lost in translation." It seems that J believes his opinions are shared by most Latvian farmers. It is important to note that if both Latvian and Swedish farmers feel this way, despite the differences in the farming and bureaucratic environments of the two countries, then this may be a widespread concern of farmers throughout Europe, and would require attention.

Falling under this theme is the issue of governmentally provided subsidies, and J reports that "there is no reward system or compensation for starting up an agri-environmental project and so there is no incentive; there needs to be some kind of incentive, such as lower taxes, or a "reward" from the EU for progressing in an environmentally friendly way...There needs to be incentive." He repeats the importance of such a system throughout the interview and suggests "the more "green initiatives" are undertaken (by the farmer), the more reward should be received; this does not have to be monetary, it could be some other kind of support to make it

easier to do other things.” He goes on to suggest basing this “reward system” on how strong a supporter of “the green initiative” the farmer is, and on how effective green initiatives undertaken on the farm are. He suggests setting up practical laboratories for undergoing agri-environmental research throughout Europe, involving real farmers, from which the data is sent to a theoretical lab; but there needs to be an incentive provided to build these laboratories. He insists, however, that “there has to be a farmer implementing these, not a governmental organisation or a farm owned by the government.”

Essentially communication between policy-makers and administrators and the farming community is lacking in Latvia; J seems perplexed as to how the bureaucracy works and is disillusioned with the regulations, rules and lack of subsidies. If there are subsidies and incentives that are governmentally provided in Latvia, of which J is unaware, then this in itself highlights a failure in communication of their existence to the farming community.

As the interview for the Eider example was held with B who is a representative of the state agency in the project, the point of view was slightly different to that of the previous examples outlined. B does report that there was some initial conflict between farmers and the state agency in the beginning of the project, but after working hard to build relationships these have been eliminated.

As well as B bridging the gap between farmers and scientists, she also did so between the policy-makers and administrators and the farmers. Through B “incentive to the farmers was provided by bringing in new win-win ideas, and providing information about opportunities...I provided information about subsidies which people didn’t necessarily know about, and they also did not know how to become involved in the different programs. Many farmers were open to new ideas, although this was very character dependent. This worked to raise awareness of issues existing and possible incentives.” This indicates that before the project and its associated communication processes, farmers in the area were not aware that there were subsidies available at all, highlighting a failure in communication.

B reports that the agenda of the local political figures can either hinder or support an agri-environmental project; one mayor was very resistant to the project, however

once it became a success he took a lot of the credit in the press, and changed his mind. This shows how individuals in positions of power may take advantage of positive project results, or how positive results and positive press can be a powerful tool for gaining local political support.

Much participation was involved in this project, which rendered a project initiated by “top” players a far more bottom-up orientated project.

4.3.6 Intra-stakeholder group communication problems

(Super-theme 3. *External to Professional Cultural Differences*)

This theme was identified during the coding process as an area of investigation and aspects of communication outlined in the introduction contribute to the codes under this theme, such as *incentive*, for members of the same stakeholder group to communicate about relevant environmental issues or agri-environmental measures, and incentive to collaborate, as well as *collaboration and cooperation* itself.

Intra-stakeholder group communication problems are those problems with communication that occur within stakeholder groups between members of the same stakeholder group. These can be due to individuals, internal problems, the professional culture leaning towards less communication or due to sub-divisions within the stakeholder group, such as “entrepreneurial farmers” and “typical farmers”. This does not fall under the super-theme *professional cultural differences*, and has been classified as falling under the super-theme *external to professional cultural differences*. This theme is not a main focus of this study, it has however been included for a holistic overview.

It is possible that farmers can be split into two different “professional cultures”; those who are entrepreneurs with an interest in new and innovative ways to farm, and those who tend towards the conservative side of farming. This could explain poor communication between different farmer groups.

Influences: *Intra-stakeholder group communication problems* do not directly influence other themes, although this needs to be explored further. It is possible that this theme

may in some cases influence *scientific cultural problems* and *policy and legislation problems*.

Affected by: *Intra-stakeholder group communication problems* is not directly affected by other themes, although this needs to be explored further. It is possible that this theme may in some cases be affected by *scientific cultural problems* and *policy and legislation problems*

The conditions and processes relating to *inter-stakeholder group relations problems* and *inter-stakeholder group language barrier* can be applied here, however, it must be taken into account that each of these conditions no longer applies to a whole stakeholder group, but is on an individual to individual level.

For example the code *reputation, respect and trust* that is seen between individuals can affect, and can be a result of, the state of the intra-stakeholder group communication.

Intra-stakeholder group communication problems in the Examples

H characterises a sub-division in the Swedish farmer stakeholder group, with members of OiB belonging to a sub-group that has an atypical outlook; these farmers are “entrepreneurs with an interest in new and innovative farming techniques”; this gives rise to intra-stakeholder group communication barriers, as new ideas communicated directly from OiB farmers to other more traditional farmers would be dismissed. OiB has approached this challenge by involving and utilizing the Swedish farmers’ advisory boards, who are used as distributors of information. H believes this lack of communication about farming techniques and farming economics is due to farmers believing “they have something special, or a good thing going on” that they do not want to share. Although with the next generation of farmers, especially with regard to those belonging to the LRF youth, this may not pose a problem, as they are “keen to find new and innovative ways to farm” and often visit OiB demonstration farms.

Another technique that has been used to combat this entrepreneurial farmer to traditional farmer language or mind-set barrier, is addressing changes and new ideas in monetary terms during communication, applying *target audience based communication*. It must be noted that OiB does provide the opportunity for other

farmers to engage in communication as all the farms are demonstration farms as well as pilot farms.

In Latvia J believes the lack of farmer-farmer communication about agri-environmental initiatives is due to a lack of incentive to proceed with these kinds of projects, and therefore not an indicator of *intra-stakeholder group communication problems*.

However he does believe that the lack of sharing of research within scientific communities is due to an issue with “communication within the scientific environment.” This may highlight *intra-stakeholder group communication problems* within the scientific community.

Within the Eider example due to the individual interviewed (B) representing the State Agency, questions about intra-stakeholder group communication were more based on project-to-project communication; that is, all those involved with wetland restoration sharing information and communicating.

B states that there was a social meeting organised where stakeholders from different local projects met to discuss the initiatives undertaken in their community, and that this promoted communication, networking and bred some friendly competition. This social event only occurred once and she believes that this kind of event should have been repeated often and periodically.

An interaction project known as Interreg Project BIRD provided intra-stakeholder group communication opportunities with wetland restoration projects in Sweden, Germany, Lithuania, Finland and Denmark; it lasted 3 years and exchange excursions occurred to the different projects. This provided an opportunity to share information and provide recognition to the communities involved in the project, highlighting their work as important on an international level.

4.3.7 Example specific problems, project priorities and factors/ processes that promote successful communication

(Super-theme 4. *Example specific*)

Essentially this theme has the same definition as the super-theme it falls under. These are problems, project priorities and factors/ processes that promote successful communication specific to examples, which were included here for the sake of a holistic overview, and possible further insights; as these are example specific their relationship to other themes cannot be defined as this is case specific. There is no introduction section corresponding to this theme, but the theme serves to provide insight into the specifics of the project examples chosen.

Example specific problems, project priorities and factors/ processes that promote successful communication in the Examples

OiB's project specific priorities are encompassed in the following quote "OiB is the bridge, trying to find new solutions, new ideas which are tried on the farms, and if the idea is something that's really interesting to spread we send it to the University or some other institution, to work on, often as an exjob for students who continue to work on it." OiB is independent from their sponsors and other organisations, which promotes their institutional trust as an objective party, and their relationships were built and maintained via networking, using the contacts all of their many stakeholders provide. They use target audience based communication, taking into account with whom the communication process is occurring, placing a lot of value in environmental benefits being associated with economic benefit, illustrating this by using a system for communication that OiB themselves developed. This communication system uses their "farm-box" metaphor, serving to illustrate the measured input and outputs occurring which are associated with each project or technique implemented.

Their relationship and involvement with the research community has minimized problems obtaining information in a relevant practical and comprehensible form, and their reputation has resulted in their opinion being valued by all stakeholder groups, including the ministry (policy-makers and administrators). H and T having received the WWF's Baltic Sea Farmer of the year award in 2010 has provided media coverage

and recognition for the work undertaken, and raised awareness in the community which was not necessarily there before. The open nature of the demonstration farms invites society to re-evaluate their preconceptions and misconceptions held about farmers and farming. The long-term nature of this organisation must be noted, as many of these achievements are dependent on their long-term commitment to their cause. The two-way communication seen throughout this organisation stands to attest their success in becoming the bridge between stakeholder groups.

The agri-environmental initiatives undertaken by J were motivated by a purely intrinsic personal incentive to provide environmental benefits and to protect nature, borne from environmental awareness and carried out with only personal funding. The latest initiative of building a wetland is partially funded by the WWF, and this partnership was built up via personal networking of J at a conference. This example is most notable due to the many projects being undertaken with very little support, and entirely fuelled by the personal ideals and funds of the farmer, despite the many challenges faced. When asked who was mainly involved in the projects J replied “My family”, although this could be due to a slight misunderstanding of the question due to the interviewer’s phrasing or the translation; it serves to highlight the unique way J approaches the environmental issues on his farm which he aims to solve. J did credit Zanda Kruklite and Maira Dzelzkaleja from the Latvian Farmers’ Parliament with helping to translate research information into implementable terms, and his ties with these individuals remain strong.

The project specific problems relating to this project fall under the categories already discussed, and in short are due to the many problems Latvia is currently facing while attempting to build up a foundation from which communication can occur. This is summarized in the following statement from J “In Latvia the processes of communication are in an infant state. For example when compared to Denmark, where information is shared and it is easier to find resources. Latvia is still developing towards information sharing and communication, it is not bad or good, it is in a state of development.”

The Eider example had a specific project priority of communication, borne from previous initiatives attempting to address the problems in the area being met by

much resistance from the implementation-level stakeholders and the community. Although the project aims originated at the top, through the introduction of: 1. intense and long-lasting participation, 2. full involvement of the different stakeholder groups, and 3. empowerment of the community and implementation-level stakeholders, the project became bottom-driven, essentially being restructured and implemented as a bottom-up project.

Priorities included raising environmental awareness, raising incentive awareness, provision of environmental information and practically implementable techniques as well as building relationships and trust. This intense communication still took a long time to achieve the desired aims, as long-term collaboration and cooperation is important when attempting to attain the conditions needed for a successful communication basis. This successful foundation was built by having two individuals who spanned the boundaries between stakeholder groups, as translators, mediators, facilitators and providers of information. In this way B and her colleague acted as the bridge between individual stakeholders and different stakeholder groups, this bridging was also undertaken by the individual who represented WVB, and together they set up two-way communication processes.

One of the problems with the project, despite its success, was that “The workload was too high for so few people, especially as I was only employed part-time. As this was my passion I worked more hours than I was paid. I built up relationships with the people and built a network, building up a good base from which to communicate, and also had a lot of respect from most of the communities. However there was more work than was possible to undertake with only 4 employees and there could have been 3 more employees and full time jobs.” B continues by emphasising a need within the agri-environmental sector, “there needs to be more people involved in communication and connection as bridges and translators; research needs to have a practical approach and be implementable as opposed to theoretical... It is important to have people who understand both scientific (biological) level information and farm-level information. This is the first step towards respecting each other.”

4.4 The Suggestion codes

(Super-theme 5. *Suggestions to promote successful communication*)

Those codes that are thought to be the most influential to communication or communication problems have been associated with a suggestion which aims to eliminate the presence of negative codes and propagate the presence of positive codes, therefore lessening or eliminating communication problems (associated with the code). These suggestions will be discussed in the following section.

These recommendations were identified through examples, which have either been implemented in these successful projects, or have been identified as processes which promote successful communication or eliminate major problems of communication. Each suggestion affects more than one theme within communications, or targets the bettering of the communication process itself which affects all themes. Aspects outlined in the introduction as areas in which communication problems occur, or aspects contributing to communication problems are addressed in this theme, the suggestions aim to rectify these.

These suggestions may relate to the propagation of conditions, states or processes that lessen one or more of the communication problems represented by the themes (e.g. *trust building, networking*); these are often interrelated, that is to say that an improvement in one may indirectly result in an improvement of several others. Recommendations may work towards the elimination of a theme (representing a communications problem) entirely. Some are suggestions brought up by the expert interviewees, others are processes interviewees have reported, implemented by the example projects and identified as influencing the success of the communication processes within the examples.

As suggestions can be related to any theme problem, the introduction section corresponding to these is dependent on the code highlighted as a suggestion, some of which were specifically mentioned in the introduction, while others were identified in the duration of the study.

Within the theme *suggestions*, the suggestions are classified as processes to be implemented.

4.4.1 Communication rectification (Two-Way communication)

As outlined in the introduction section dedicated to communication; by definition communication is a two-way flow of information (Flor 2004); in the past top-down projects have resulted in a one-way communication process (orders received and carried out with no feedback), which has over time resulted in a distortion in communication carried out between stakeholder groups (U. Rammert, 2013, pers. comm.). The rectification of the communications process rendering it two-way as opposed to one way will weaken the language barrier and work towards bettering the state of all other themes (communication problems) (U. Rammert, 2013, pers. comm.). The complex influences that two-way communication has on bettering other suggestion codes and themes described above are illustrated in *Fig. 3*.

The code associated with this suggestion is *two-way communication*, which occurs under all themes representing problem areas in communication. This code relates directly to the communication process.

Communication rectification (Two-Way communication) in the Examples

Within OiB, as has been previously mentioned, *two-way communication* is present between all participating stakeholders and stakeholder groups, however the length that this organisation has existed must be noted (1991-present) and therefore the time it has taken to set up this kind of communication cycle. For example, when asked how the relationship with the university was built up, whereby OiB sends ideas to the university, instigates research and is involved in the research process from its start, H replied it takes 10-12 years.

In the Latvian example, and Latvia in general, it seems there is a lack of two-way communication, especially with regards to the scientific community, and indeed even the possibility of a lack of communication entirely. A real rectification of communication processes is needed.

The Eider example prioritized communication and through the introduction of intense participation at “round tables” a *two-way communication* cycle was initiated and set up. Once again the timespan over which this project took place is relevant (1999-2004). B emphasizes that this process took a long time, and a lot of hard work.

In setting up a two-way communications process many other factors, listed as codes in the template, come into play, illustrating the interrelatedness of the codes, such as *respect, reputation and trust, empowerment* and many others.

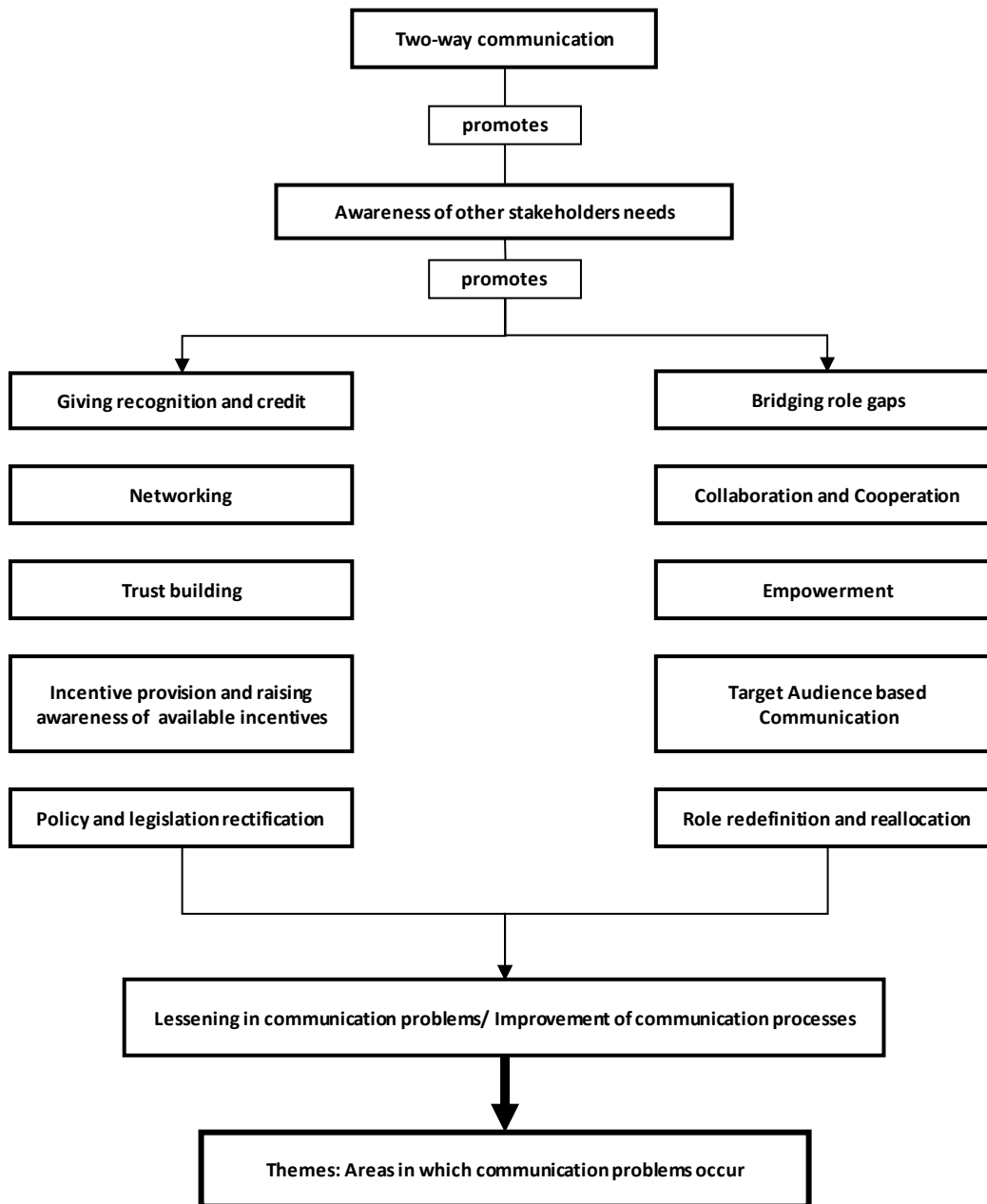


Fig. 3. Conceptual diagram outlining the over-arching influences that Two-way communication exerts over all other suggestion codes. This implies and illustrates that Two-way communication could work towards eliminating all problems represented by themes, as it has such a powerful influence over all communication processes occurring.

4.4.2 Target Audience based Communication

In the introduction section entitled “Communication”, the external context and internal setting of the communication process is outlined as being of importance (Janse 2006); relating to this, *target audience based communication* was identified during the coding process as a crucial element of successful communication that is often overlooked.

Target Audience based communication, is communication in which the message is formulated with terminology, word-use and style that is suited to the target audience with whom the communication is taking place. Essentially it is communication while taking into account the target audience (i.e. to whom are you speaking). Not all individuals do this, but the implementation of *target audience based communication* as a simple guideline can greatly reduce all language barriers and work towards lessening other theme problems. This will also affect condition and process codes, such as promoting trust, understanding, knowledge base, awareness and empowerment, and lessening misconceptions, misunderstandings, conflicts etc. Essentially this is the first step towards rectification of the communication process and should be undertaken by all individuals; it is a very powerful tool by which successful communication, relations and roles can be built quickly.

This suggestion is represented by the code *target audience based communication* under the themes *inter-stakeholder group language barrier* and *scientific cultural problems*. The influence these themes have on other theme problems means that the application of *target audience based communication* has the potential to affect these other theme problems too, via bettering the state of communication in general.

Target Audience based communication in the Examples

Target audience based communication is applied by H in OiB when undertaking any communication with any individual stakeholder or stakeholder group, as described in the following statement: “(The) language barrier when speaking to farmers can be lessened by addressing ideas and changes in money, as this is the priority of the farmer; the environmental benefits are a bonus. But when speaking to the community the environmental benefits are the priority, so communication needs to be target audience based. One needs to think about to whom one is communicating and

communicate accordingly... you have to figure out, first, before you open the mouth, what the target audience's priorities are." It is also applied when using their "box-metaphor" describing the functioning of a technique on a farm through the input and outputs according to the changes made; this metaphor is easy to understand and can be used when communicating with all stakeholder groups.

This kind of communication does not seem to be applied much in Latvia, although its importance is highlighted in J's suggestion that there needs to be more conferences, symposiums and demonstrations, as well as mentioning that rules and regulations for "green projects" are too long, and that for the farmers they need to "be the size of a pamphlet." Problems obtaining information that is relevant, practical and comprehensible from the scientific community also indicates a lack of the use of *target audience based communication*.

B applied *target audience based communication* when communicating with the communities and implementation-level stakeholders within the project, describing benefits and outlining subsidies which would be important for farmers. Based on the interview it seems that other individuals within wetland restoration, such as Prof. Succow (interview B. Lezius, 2013, pers. comm.) (Ernst-Moritz-Arndt-Universität Greifswald), have also applied this kind of communication when spreading information, targeting communication at society in general and farmers through the press. B outlines a need for a change of mind-set resulting in "individuals thinking about to whom they are going to be speaking to when preparing an excursion or a presentation... People should talk to the region before they hold a presentation, to properly prepare at the real communication level. One could even hold a preparation presentation in front of one of the local people."

4.4.3 Bridging Role Gaps

In the introduction, problems regarding the traditional roles of stakeholder groups was outlined. As mentioned, much of the literature identifies interfaces between stakeholder groups as "gaps" needing to be bridged by individuals or organisations taking on roles that bridge these gaps (Rammert 2012; Janse & Konijnendijk 2007; Uetake et al. 2013; Castella et al. 2007; Davies & White 2012; Welp et al. 2006; Benn et al. 2009; Robinson et al. 2006; Reed 2008; McNeil et al. 2006; Harris & Lyon 2013;

Janse 2008). The importance of bridging these gaps was further highlighted by the results of this study, as supported by the literature.

The bridging of role gaps, especially with a *communicator* role (which encompasses bridges between professional cultures, translating, mediating, facilitating communication, networking and knowledge brokering) by either an individual, organisation or role redefinition of an existing stakeholder group, will immediately lessen or eliminate the language barrier, scientific cultural differences, strengthen relations, lessen role problems and lessen policy and legislation problems (the theme problems). The individual, organisation or stakeholder group in the role of *communicator* needs to have an understanding of all professional cultures and professional languages involved, good access to information and good general communication skills. Therefore it is best if they come from an interdisciplinary background. There is a possibility that there should be two different *communicator* roles; one bridging the gap between the scientific community and other stakeholders and one bridging the gap between policy-makers and administrators and other stakeholders, this is because a strong background in both sectors is rare. As well as influencing theme problems, this will also positively affect condition and process codes which are important, such as promoting trust, understanding, knowledge base, awareness and empowerment, and lessening misconceptions, misunderstandings, conflicts etc. The effects of bridging these role gaps as described above are illustrated in the diagram *Fig. 4*.

The code associated with this suggestion is *role gaps (mediator, translator, bridge etc.) and filling of traditional role gaps*, which occurs under the theme *traditional role problems*. This code and suggestion, being associated with bridging gaps between professional cultures with a communicator role, has the potential to lessen all kinds of communication problems associated with *professional cultural differences*.

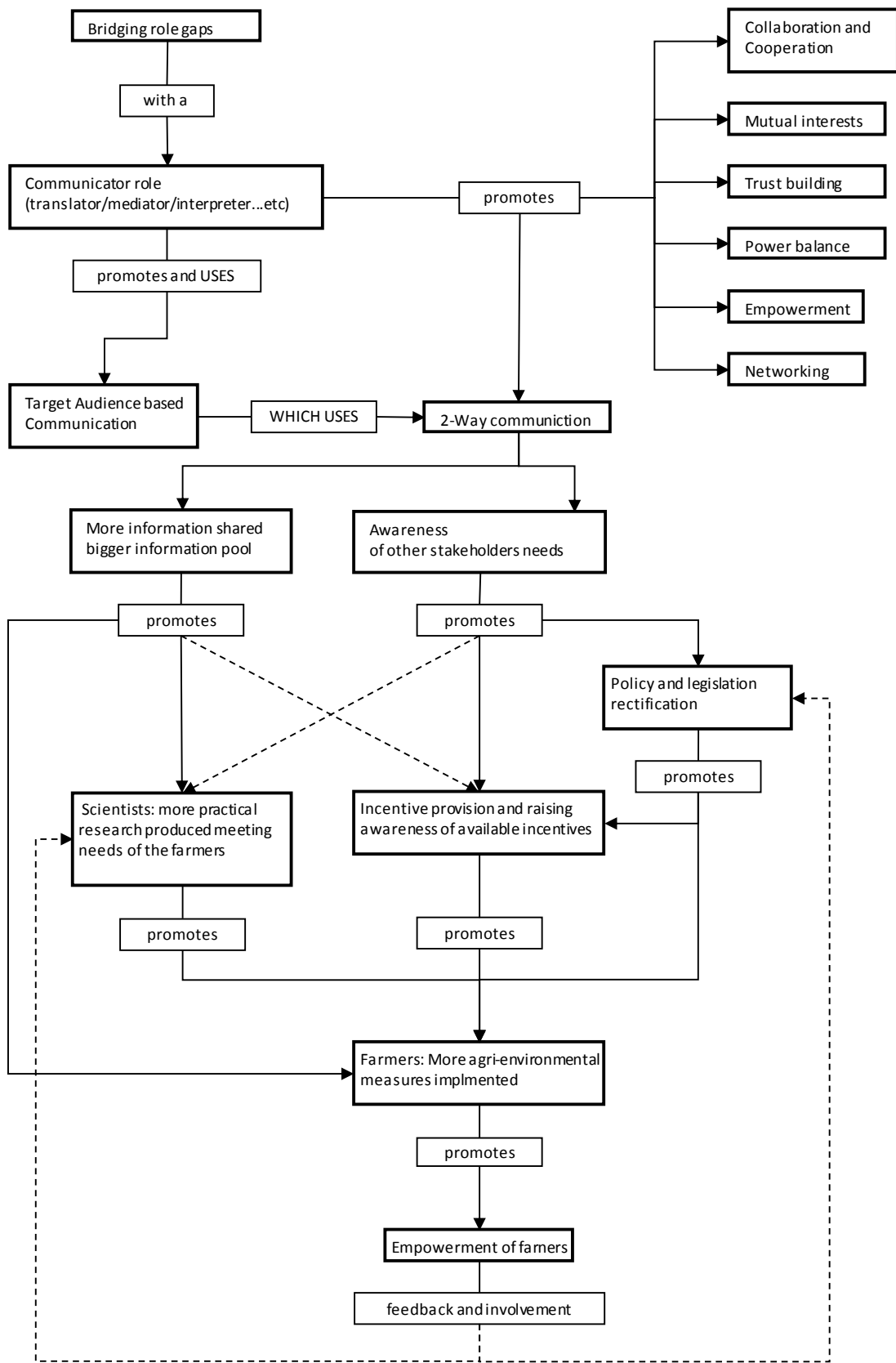


Fig. 4. Conceptual diagram providing an overview of the effects that fulfilling a bridging role could provide, positively influencing all other suggestion codes and therefore the corresponding themes. The positive feedback loop reinforces this positive influence.

Bridging Role Gaps in Examples

OiB itself acts as a bridging organisation, and takes on this role of *communicator* as stated by H and by the WWF Baltic Sea farmer of the year award 2010 (WWF 2010). The farmer advisory boards have also taken on the role of a bridging organisation, brokering knowledge to non-member farmers.

In J's case the Latvian Farmers' Parliament provided individuals (Zanda Kruklite and Maira Dzelzkaleja) who were placed in communicator roles, translating scientific research into practically implementable terms. Other than this, there was no mention of any roles bridging the gaps between stakeholders; however, as the communication in Latvia is in a state of constant development this may be arising. There may even be the possibility that J himself is becoming a bridge and an information source for Latvian farmers who are interested in implementing agri-environmental measures, and that the Latvian Farmers' Parliament are taking up this role as well.

Within the Eider example B, her colleague from the State Agency and an individual from the WBV worked in *communicator* roles bridging the gaps between stakeholder groups. B specifically was well suited for this due to her diverse and interdisciplinary background, which provided her with a basis of common ground with all the stakeholder groups involved, from which to build trust and strong relationships. B distributed information, raised awareness of opportunities and environmental issues, mediated, facilitated, translated and set up two-way communication. She did this between all stakeholder groups, and highlights the need for more people in these bridging roles who "understand the practical sides of projects, know how to make connections and know how to build bridges."

4.4.4 Role redefinition and reallocation

In the introduction section relating to *traditional role problems*, role redefinition and reallocation is also identified as being important to address communication problems (Rammert 2012). This suggestion to address *traditional role problems* identified in the literature was supported by the results of this study.

Role redefinition and reallocation relates to but is not limited to the bridging role gaps. With top-down roles coming so naturally to stakeholder groups, as these are

the roles that have been implemented for so long, there are many redefinitions that could take place to better the structure and functioning of a project. Reallocation of roles to those more suited to stakeholders within the context of each project should also take place. The roles of stakeholder groups should be project dependant, and not based on pre-defined traditional roles. Not every project originates or is implemented by the same stakeholder group, and therefore roles need to be flexible. Redefinition and reallocation of roles will serve to strengthen relations, and better the efficiency of the project, as well as to some extent influencing other themes, and influencing condition and process codes.

This suggestion is similar to the previous one, concerning bridging role gaps; much of the role redefinition and reallocation is to do with stakeholder groups taking up the non-traditional role of a *communicator*. However there are other instances of role redefinition or reallocation to take into account. The code associated with this suggestion is *Redefinition of roles*, which occurs under the theme *traditional role problems*.

Role redefinition and reallocation in Examples

A change in the role of the ministry occurred in OiB, where they have in some instances turned to OiB for advice and aid. OiB is working towards redefining the role of farming as perceived by the community, where agriculture is viewed as part of the solution, and this is partially facilitated through the farms being open to the public. Other forms of role redefinition seen in this project example are to do with bridging roles and the role of OiB as a *communicator*.

In the Latvian example J acknowledges the need for role redefinition, believing that there needs to be more conferences and symposiums in order to redefine roles. He especially believes there should be role redefinition with regards to the scientific community.

In the Eider area, before the project in question was started, the very first conservation and environmental initiative undertaken in the area was by hunters, in order to restore populations of game birds, particularly the Black Grouse. This role of hunters as the conservationists, although viewed as a non-traditional role, may not be

as untraditional as it is perceived, due to prevalent misconceptions about hunters, whom in reality, often take the ecological health of their hunting areas very seriously. The participation processes put in place during the project placed the farmers and other implementation-level stakeholders in a position of empowerment and influence; this was an example of role redefinition and reallocation of power from the “top” level stakeholders to the implementation-level (“bottom” level). Other role changes seen were discussed in the previous section and involved the bridging of role gaps.

4.4.5 Predefined structural organisation

This suggestion is in conjunction with the introduction section relating to *traditional role problems*, and would aim to address the need for clear definition of the roles and responsibilities of the stakeholders involved in a project (Rammert 2012; Davies & White 2012).

Predefined structural organisation of a project is important; firstly because if implemented as an actual task it encourages stakeholder groups to rethink roles, identify role gaps and possible areas in which role redefinition or reallocation might be necessary. It also improves the clarity of what tasks and roles each stakeholder group is expected to carry out, and therefore improves the participants’ understanding of the project, not just the identification of their own tasks. It makes it easier at a later date to identify problems. This works to strengthen the state of relations, and through this, positively affects the state of other themes. It also influences condition and process codes, such as *collaboration and cooperation*, *empowerment*, *networking*, *reputation*, *respect and trust*, and *two-way communication*. It must be noted that in large projects this task may be too time consuming and require a high input of human resources not only at the start of the project but as a continual process.

The code associated with this suggestion is *well defined roles and structural organisation of project*, which occurs under the theme *traditional role problems*.

Predefined structural organisation in Examples

OiB has very clearly defined structural organisation and roles of stakeholder groups; however, it is possible that these emerged over time, and took a long time to fully define. Of special note is the flexibility of the active participating stakeholder groups at any one time, which is dependent on the projects being undertaken, or the focus the organisation has at that moment in time. This is natural as those stakeholder groups with the highest interest, or “stake”, in the projects in progress will be those most likely to be actively involved. This flexibility is very valuable. Another thing to be noted about the structural organisation of OiB is the one full time employee who does all the practical organisation, makes contacts, finds funding, networks and contacts potential parties with mutual interests.

Within the Latvian example this process was not explicitly mentioned and this may be because the state of agri-environmentalism in the country is still in a state of development and this may become of importance on a National scale sometime in the future.

The Eider project’s structural organisation seemed based around the “round-table” approach through which participation occurred, providing a platform from which all individual stakeholder and stakeholder groups could be heard.

In summary there is a possibility that redefined roles and a structural organisation may save valuable time if tasks are allocated, understood and agreed upon at the start of a project, according to the strengths and suitability of each stakeholder group to undertake the task, or role.

4.4.6 Education

This suggestion arose during the coding process, as it was mentioned as a suggestion by interviewees; it does not occur in the introduction, however education has long been known as a method to raise awareness and “level the playing field”, the importance of which is addressed in Uetake et al. (2013), it is also mentioned as a method of power allocation in Reed et al. (2009) and is recorded as being implemented in many projects in papers such as Hahn et al. (2006); Janse & Konijnendijk (2007).

Education of both children and adults can be used to increase the conditions of: knowledge and awareness, higher knowledge and incentive awareness (both in terms of monetary incentive within the major theme of *policy and legislation problems*, and awareness of environmental issues which breeds basic or personal incentive within the theme of *scientific cultural problems*). With an increase in higher level knowledge the theme of *scientific cultural problems*, especially regarding the scientific language barrier can be lessened. Education uses target audience based communication to make information understandable to all stakeholder groups.

There is no specific code associated with this suggestion, however it does use *target Audience based communication* in order to raise *basic knowledge (Environmental) and Awareness of environmental problems*, also addressing problems regarding *reputation, respect and trust*, especially with regards to the public image of farmers. These codes fall under various themes discussed in the previous paragraph.

Education in Examples

Education was mentioned by H as an important way to “show that environmental practises and economics go hand in hand,” and to “create awareness and change the reputation of farming; an idea would be to educate children and raise awareness and basic knowledge, through a TV program or computer game, this may have the secondary effect of reaching adults too.” Another form of education has actually been implemented by OiB and that is through the demonstration farms being open to the public, therefore educating groups who visit, such as the LRF youth.

J is in accordance with OiB stating that “farmers need to be publically open, so that the public can see what happens on the farms, and see the facts in reality. This way people will learn not to trust what they hear or see in the press,” thereby educating those members of the public who visit the farms.

Within the Eider project education as such, went unmentioned, however, using the press to educate was mentioned; this will be discussed under the next suggestion.

4.4.7 Positive Press

Positive press was not an aspect of communication that was predetermined for investigation and therefore outlined in the introduction; in the coding process it was determined as an important tool for raising awareness and providing recognition to successful agri-environmental projects. The importance and usefulness of mass media is well known and implemented for raising awareness (Jurin et al. 2010), however little evidence in the literature was found with regards to its use in providing recognition.

Similar to education, positive press is a powerful tool through which the conditions of: knowledge and awareness, higher knowledge and incentive awareness can be spread. This can work to lessen the theme of *scientific cultural problems* especially regarding the scientific language barrier. The press also uses *target audience based communication*. Positive press can be used as a tool to "provide credit, where credit is due" which results in recognition of positive processes being undergone by the community, farmers or other implementation level stakeholders.

Like the suggestion code *education*, this suggestion is associated with various codes. Positive press can be used to address the problems regarding *reputation, respect and trust*, to combat poor farmers public image, raise *basic knowledge (Environmental) and awareness of environmental problems*, and therefore raise *incentive due to environmental awareness*, to raise *knowledge (higher level)* and uses *target based communication*.

Positive Press in Examples

The positive press that resulted from H and T being awarded the WWF Baltic Sea farmer of the year award 2010, really made an impact on the community around Stockholm, raising awareness and illustrating the aim of OiB to the public, that farming can be both economically and environmentally beneficial, resulting in a change in perception. T and H believe that the media have a role to play, which was highlighted by this change in perception after the positive press the award resulted in, making regional news in both newspapers and on television. T and H believe that

there is too much negative press, and that the media needs to report the positive stories too.

In Latvia J puts the public poor view of farmers down to misrepresentation and manipulation of the press, and that the farmers are “not the kind of people to fight the press.” He reports no examples of positive press but this statement indicates the kind of power the media holds, and therefore the kind of sway positive press may have as well.

Within the Eider project interview B states that the topic of wetland restoration has had a lot of television and newspaper coverage “over the last 6 years, due in part to Mr Succow in Greifswald who works in wetland restoration and won the alternative Nobel Prize. This has helped with the availability of information and the practicality of information...Mr Succow supplies information at a level the farmers understand, on rewetting and the connection between climate change and wetlands. The topic has become more popular and more information is readily available.” This was illustrated by the fact that when B first started her work in the areas, no one knew about peatlands or wetlands. However, upon revisiting the area in 2013 she has found that awareness is much higher and people are far better informed. Although she puts this down to the press, it is also possible that her work in the area raised awareness in individuals and through them the community. B states that the press can change a community’s opinion and be a platform for sharing information.

4.4.8 Giving recognition and credit

In the case of successful implementation of an agri-environmental project, giving recognition and credit where it is due, through communication, was not originally identified as important and thus is not outlined in the introduction, however, it is not a new concept. Jurin et al. (2010) discusses recognition as an important component of motivation within environmental communication. It is also important that recognition is shared and this is a key to collaboration (Uetake et al. 2013). That being said, the identification of this important code during the coding process is in parallel with the literature.

Providing those implementation-level stakeholders, who have undertaken agri-environmental initiatives, with recognition and credit for their efforts, especially when they have excelled, is especially important. For positive and successful initiatives and projects to go unnoticed can be demoralising for the implementers, and recognition acts to renew their enthusiasm and passion. This can occur through: positive press, invitations to host conference talks, or visits from either the international or local community to view the project. It also provides a method of sharing information and knowledge with the public, other communities or experts. This process in itself is two-way communication, as it is providing feedback to other stakeholder groups about the projects. This influences many condition and process codes and therefore the themes that these fall under.

There is no specific code associated with this suggestion, although it can be achieved through the suggestion code *positive press*.

Giving recognition and credit in Examples

Recognition of the successful agri-environmental practises implemented by T and H and OiB was provided through the WWF Baltic Sea farmer of the year award 2010, and the press received due to the award. T and H stress the need for recognition and credit being given where it is due.

J's suggestion of rectifying the farmers' reputation, by making farms open to the public would result in recognition for the farmers from the public of the work they are doing.

In the Eider example press and tourism were very important to one mayor in the area; receiving credit and praise for the implementation of the aims of the Eider project in the area resulted in him adopting wetland restoration as a theme to work with for the community. During times of high press coverage B said "I used my intuition to decide to stay in the background; the community needed to take ownership of the process, their region, their heritage, and their responsibility to take care of their area. As projects end and I have been relocated, the community needed to be empowered to carry it on themselves. The community needed to be proud of what they have achieved." These instances of press coverage empowered the community through recognition of what had been achieved in the area. B emphasises

the importance of information exchange projects such as Interreg project BIRD, where “this exchange was important not only to share ideas, but to highlight the international importance of the project to the community involved. It would be a good idea to have a similar exchange with other projects within Schleswig-Holstein. This would further highlight to the community what a difference they are making.”

4.4.9 Empowerment

Empowerment is mentioned in the introduction as the aim of participation processes involving collaboration and heavy involvement of stakeholders (Davies & White 2012). The sense of “ownership” stakeholders develop of research in which they have been involved, promotes the research’s adoption (Welp et al. 2006) and is key to *empowerment*. Although identified during meetings of Baltic COMPACT (2013), as an important aspect of communication, it was not included as a section in the introduction, and its importance within communication became apparent during the analysis. *Empowerment* is defined as “to equip or supply with an ability; enable,” (The American Heritage Dictionary of the English Language 2013), which is sufficient to indicate its relevancy within agri-environmental projects, especially those that have a bottom-up structural organisation.

The development of *empowerment* can be seen as a tool to influence all themes by bettering a powerful process code. *Empowerment* is the process by which stakeholders are equipped with the skillset, means and intrinsic responsibility to carry out the goals of the project themselves, without "top" originated management, drive, or heavy involvement. This relates to the process by which stakeholders develop a sense of "ownership" of a project or initiative.

The code associated with this suggestion is *empowerment*, which occurs under the themes *inter-stakeholder group relations problems, inter-stakeholder group language barrier, scientific cultural problems, traditional role problems* and *intra-stakeholder group communication problems*.

Empowerment in Examples

The implementation-level stakeholders of OiB have been empowered through the process by which they initiate research and are heavily involved in the research

processes at the Swedish University of Agricultural Sciences. Their independence from other stakeholder groups also adds an element of *empowerment*.

J highlights the need for involvement of farmers in research, and the importance of accessible information and conferences; this would result in *empowerment*.

B provided the awareness needed to initiate *empowerment*; the high level of engagement of stakeholders in participation processes also resulted in empowerment, and finally the press and credit provided to the communities resulted in pride and a sense of ownership of the wetland restoration measures, and thus *empowerment*.

4.4.10 Trust building

In the introduction the importance of trust was discussed in the section entitled “Trust and Relationships”. It was reclassified as the code *respect, reputation and trust* and the results of the analysis support that of the literature in the introduction; trust building is an important way in which to improve all facets of communication.

The state of *reputation, respect and trust* between stakeholder groups is important. Trust building is the process by which the state of *respect, reputation and trust* can be bettered; it can be seen as a tool to influence all themes by bettering a powerful condition code. This can be seen in the diagram *Fig. 5.* on the following page.

The code *reputation, respect and trust*, occurs under the themes *inter-stakeholder group relations problems, inter-stakeholder group language barrier, scientific cultural problems* and *traditional role problems*.

Trust building in Examples

OiB has invested much time and effort into its reputation through building relationships and remaining independent, resulting in institutional trust. Much of this is down to their one full time employee networking, identifying mutual interests and contacting possible stakeholders who may have an interest in the projects occurring. Being a member of OiB is mutually beneficial. H and T acknowledge this trust, respect and reputation as very important. Pilot farms were picked based on their good

reputations; this reflection of previous reputation being important in the formation of trust is supported by Harris & Lyon (2013).

Within the Latvian example it is hard to quantify and identify trust; there is certainly individual based trust (micro-trust) between J and Zanda Kruklite and Maira Dzelzkaleja, who are part of the Latvian Farmers' Parliament, with whom he has a working relationship. However, from the statements about the scientific community and policy-makers and administrators, there does not seem to be institutional trust between J and these stakeholder groups; there may not even be micro-trust between individuals within these stakeholder groups and J, as this was not mentioned either.

B gained trust as an individual from the stakeholders with whom she worked, followed by gaining the trust of the stakeholder groups as a whole. This resulted in institutional trust in the State Agency. This was highly dependent on and influenced by B's diverse background, which enabled her to understand the backgrounds of and sympathise with all the different stakeholders with whom she worked. This use of a "boundary spanner" experienced working with, or in, more than one professional background is known to be crucial for the quick development of trust (Harris & Lyon 2013). The relationship and trust building did take time. B's colleague underwent similar *trust building* with those stakeholders with whom she worked. Also of importance is that the representative of the WBV was a well trusted member of the community, and although he worked for WBV, he was a farmer himself and therefore also had their trust and could relate to them.

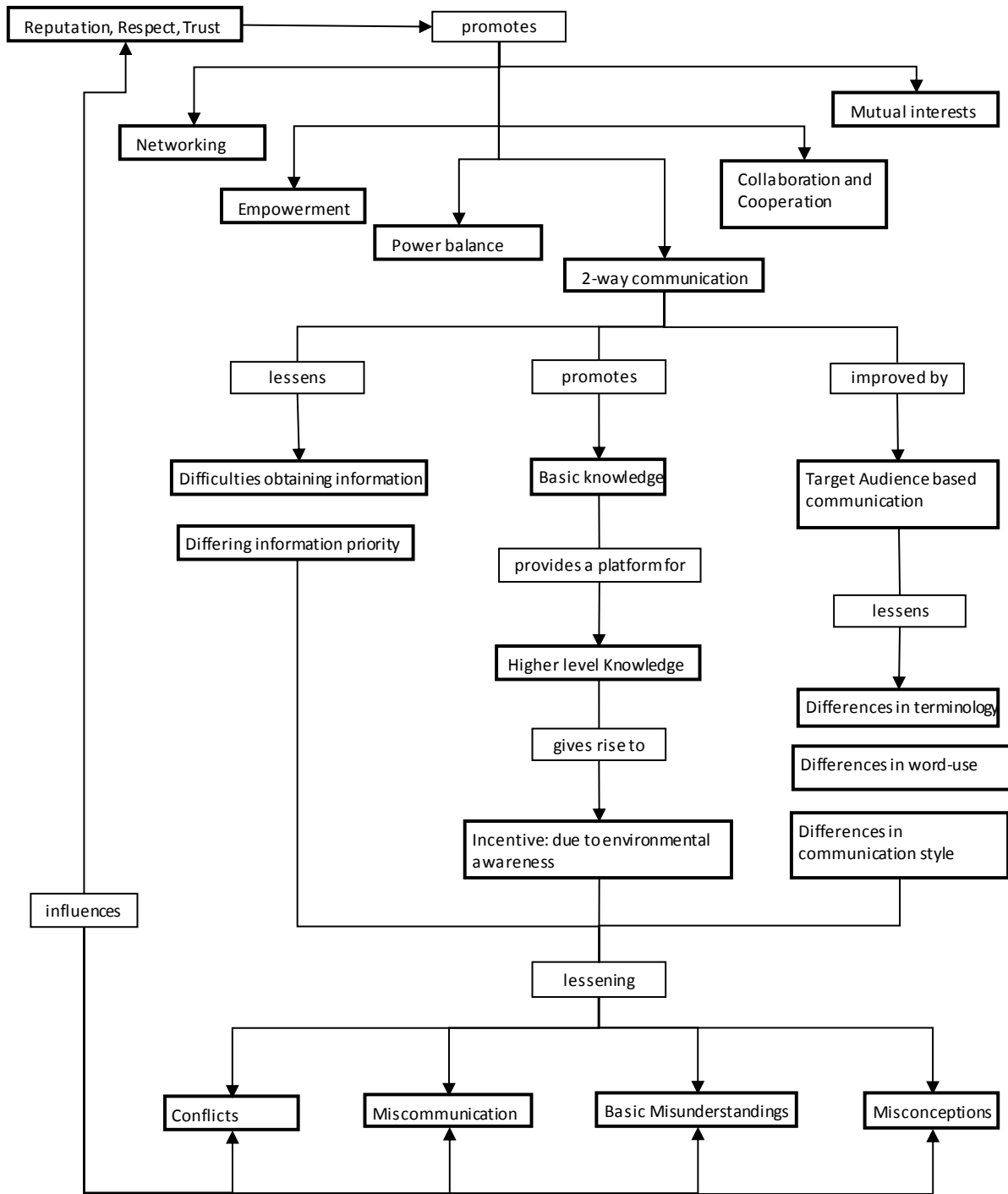


Fig. 5. Conceptual diagram outlining the complex interactions of the code respect, reputation and trust on other suggestion codes and negative codes seen within all themes, illustrating the positive feedback loop that occurs when the state of the code is bettered. Reputation, respect and trust have the potential to greatly reduce all problems (represented by themes) in communication, especially in the context of inter-stakeholder interactions.

4.4.11 Networking

The importance of *networking* was realised during the coding process; it is an essential way to identify and contact possible partners or stakeholders. *Networking* has been highlighted as important between policy-makers and scientists (Janse 2008), farmers and governmental agencies (Uetake et al. 2013) and for collaboration (Davies & White 2012). In summary, the importance of *networking* in all types of interdisciplinary or multi-player environments is a generally accepted fact.

The process of *networking* is the formation of connections between different individuals or organisations, which may have mutual interests, followed by the development of a relationship between the two, which may provide mutual benefit. This is often an active process and the network is constantly developing. Bettering the quality of networking occurring between stakeholders is a tool to influence all themes, as it is a powerful process code.

The code *networking*, occurs under the themes *inter-stakeholder group relations problems*, *inter-stakeholder group language barrier*, *scientific cultural problems*, *traditional role problems* and *intra-stakeholder group communication problems*.

Networking in Examples

“OiB relationships were built up through networking” indicating that the importance of *networking* is recognised by OiB, this is further highlighted by pilot farms being picked for their good reputation, and contacts being provided from their already well developed networks. The full time employee brought his own connections, and through other stakeholders and sponsors further contacts were provided.

Networking was not mentioned specifically in the interview with J; however, his personal *networking* is demonstrated by the involvement of the WWF in his latest project, which involves building a wetland. These contacts were made at a conference he attended; he greatly values conferences. He also has contacts with the Latvian Farmers’ Parliament.

B was heavily involved in *networking* during the Eider project: contacting farmers, raising awareness and developing two-way communication processes with them. As communication was a focus of this project, it is not surprising that much of the leg-

work for building the basis of the project was undergone through the development of contacts and *networking*. B also sourced useful and practical information through her own personal network with individuals such as Prof. Succow, as well as institutions such as Christian-Albrechts-Universität zu Kiel and Ernst-Moritz-Arndt-Universität Greifswald.

4.4.12 Collaboration and Cooperation

Having been identified at the start of the study and outlined in the introduction, the importance of *collaboration and cooperation* within multi-stakeholder projects is undisputed. *Collaboration and cooperation* were important aspects of the example projects in this study, reflecting findings in the literature (outlined in the introduction).

The code *collaboration and cooperation*, occurs under the themes *inter-stakeholder group relations problems, inter-stakeholder group language barrier, scientific cultural problems, traditional role problems* and *intra-stakeholder group communication problems*.

Collaboration is the process by which more than one stakeholder group works together, while cooperation is the process by which they work towards the same goals. The development of *collaboration and cooperation* can be seen as a tool to influence all themes by bettering a powerful process code.

Collaboration and cooperation in Examples

Both of these processes are present and successful in OiB, and the stance of OiB on this subject can be summarized by this statement: “OiB believes that for the future of the agri-environmental sector different stakeholder groups need to work together and agriculture is part of the solution.”

In Latvia due to the communication processes still being in a state of development, it is possible that *collaboration and cooperation* are only just beginning to form. While most of J’s projects have been undertaken and funded as personal projects, the current project is being undertaken in cooperation with the WWF. J’s *cooperation and collaboration* with individuals at the Latvian Farmers’ Parliament is also of note.

The Eider project aimed to carry out wetland restoration in *collaboration and cooperation* with the community, implementation-level stakeholders and other stakeholders present in the areas. They achieved this through a process of intense communication and involvement of all stakeholders through participation. This was helped by B's diverse background, and awareness of incentives (subsidies etc.) and other opportunities available to implementation-level stakeholders, as without incentive to collaborate, it cannot occur. The result was the collective provision of environmental goods, through collective wetland restoration.

4.4.13 Incentive provision and raising awareness of available incentives

At the start of the study, incentive was identified as an important aspect affecting communication and a section of the introduction is dedicated to it. During the coding process the complexity of different and interlinking types of motivation for different stakeholders to contribute to agri-environmental projects in different ways, was uncovered. Several codes relating to incentive arose. Monetary incentive, often in the form of subsidies provided to farmers and land-owners for the start-up of agri-environmental projects, is a well-known example and its value and shortcomings are discussed by Davies & White (2012); Hahn et al. (2006). Other forms of motivation or incentive for starting-up or continuing with agri-environmental measures are discussed by Davies & White (2012); Hahn et al. (2006). Awareness of environmental issues and solutions to problems serves to facilitate an intrinsic incentive, as highlighted in a meeting of Baltic COMPACT (February 28th 2013). However, this study shed light on several other types of incentive important for successful communication within bottom-up agri-environmental projects, or in fact the agri-environmental sector as a whole.

Incentive in this case relates to all types of incentive codes. The existence of monetary or support based incentive for implementation-level stakeholders, will increase the interest in and awareness of possible agri-environmental measures which could be implemented. An increase in interest will increase the communication about agri-environmental initiatives, which may result in an increase in the awareness of this incentive. Awareness of monetary incentives that are available is important, as without it, measures will not be implemented. Also of importance is incentive for

scientists to provide research and information in non-scientific language and style, and to provide research that is practically implementable. The provision of this kind of incentive will lessen many of the problems seen within the theme of *scientific cultural problems*. Finally of importance is the incentive to implement agri-environmental measures or start an agri-environmental project; this is an outcome of awareness of environmental issues; without knowledge of environmental problems there is no incentive or reason to look into agri-environmental practices. This in turn will better the state of the themes of *scientific cultural problems* and *intra-stakeholder group communication problems* and influence many powerful condition and process codes.

Incentive was split and classified as the following codes during the template analysis, each relating to different aspects of different themes: *Incentive due to environmental awareness*, *Incentive awareness*, *Scientists' Incentive to produce non-scientific information or use of common language*, *Scientists' Incentive to produce practically implementable research*, *Start-up Incentive provided by policy/ government*, *Incentive awareness* and *Incentive to collaborate and cooperate*. Incentive codes occur under the themes: *Inter-stakeholder group language barrier*, *scientific cultural differences*, *policy and legislation problems* and *intra-stakeholder group communication problems*. Thus the conclusion can be drawn that problems relating to incentive are widespread throughout different areas of communication, and in more forms than were originally anticipated. So important were the incentive codes, that this code *Incentive provision and raising awareness of available incentives* was included in the super-theme *suggestions to promote successful communication*, to represent a process to be implemented in order to address many of these problems.

The occurrence of *incentive* on multiple levels and within multiple themes served to prove its importance for communication in bottom-up agri-environmental initiatives.

Due to the complexity of the topic of incentive, and the number of codes, the definition of each code and corresponding quotes describing the situation within the projects with regards to each code has been provided.

Incentive due to environmental awareness

This incentive is related to awareness of environmental issues; without knowledge of these there is no incentive to start up an agri-environmental project.

Incentive due to environmental awareness in Examples

OiB is fuelled by *incentive due to environmental awareness*, trying to find both economically and environmentally friendly solutions in agriculture; both basic environmental awareness and higher knowledge of environmental knowledge is instilled into the members of OiB.

In the Latvian example, the farmer initially started up his agri-environmental projects via his personal *incentive due to his environmental awareness*; J's "motivation for the agri-environmental initiatives on the farm, is to protect nature and for environmental benefits." However, he states "farmers do not talk about green projects in Latvia because there is no incentive or encouragement to even proceed with these projects; just bad PR and no support and communications issues." He also mentions that there is a major problem with the accessibility of research. This may indicate that there is a lack of incentive which is derived from environmental awareness in general within Latvian farmers, (although there are other problems with incentive in Latvia which may account for this).

In the Eider example it is stated that B provided "incentive to the farmers by bringing new win-win ideas, and providing information about opportunities." Before this, implementation-level stakeholders had often been unaware of the environmental objectives in the area. Those who were aware of the environmental objectives did not fully understand them; "some people understood the aim after they were addressed but others were adverse to the change; it was a hard process of communication to initiate this change of mind-set." In this case the environmental awareness was brought to them by B as a representative of the project; she approached farmers and landowners and spent vast amounts of time raising awareness through communication.

A lack of environmental awareness and therefore incentive can be due to the *inter-stakeholder group language barrier* in which case information is being provided but

not fully understood, or *scientific cultural problems* with information existing, but being inaccessible and not being actively communicated at all.

Start-up Incentive provided by policy/ government

Incentive can be monetary (e.g. subsidies) or other kinds of support offered to implementation-level stakeholders, so as to implement agri-environmental techniques or start up agri-environmental projects. The provision of good incentives results in the increase in the number of agri-environmental projects and solutions implemented; the presence of these can influence the state *of policy and legislation problems* and be a result of it.

This section deals with the existence of monetary incentives for agri-environmental measures or projects.

Start-up Incentive provided by policy/ government in Examples

No problem with a lack of monetary incentives was mentioned by OiB.

In the Latvian example J often refers to the lack of monetary and other kinds of incentive; this can either be interpreted as a lack of monetary incentives available or the lack of awareness of the existence of these incentives; this needs to be addressed in further research. His frustration is almost tangible, as can be seen in this statement: "There is no reward system or compensation for starting up an agri-environmental project and so there is no incentive; there needs to be some kind of incentive, such as lower taxes, or a "reward" from the EU for progressing in an environmentally friendly way... There should be a system in place so that the more "green initiatives" are undertaken, the more reward is received. This does not have to be monetary, it could be some other kind of support to make it easier to do other things... There needs to be some kind of system by which the more supportive a farmer is of the green initiative, the more support/reward/compensation is provided, based on how green the farm is, what they are carrying out or how effectively they are doing so." This is further compounded by a disincentive to start up any kind of agri-environmental initiative, with J stating "in Latvia it seems like the environmental control and environmental ministry are more interested in not approving projects; they are the most anti-green organisation." He then retorts "I am not sure if they are

just trying to be overly bureaucratic, but I do not know.”

In the Eider example no lack of monetary incentive was reported.

As these incentives are generally provided by the local government, the provision or lack of provision of monetary incentive for agri-environmental measures or initiatives falls under *policy and legislation problems*. Although the lack of provision of these incentives may be considered a result of *policy and legislation problems*, it may well be a cause of conflict and contention between the stakeholder groups of implementation-level stakeholders, and policy-makers and administrators.

Incentive awareness

The existence of monetary incentive is not enough if implementation-level stakeholders (e.g. farmers) are not aware of these available incentives. If they are not aware of these incentives, then they will not be utilized and the corresponding agri-environmental initiatives will go unimplemented. Therefore it is important to note when stakeholders are unaware of available incentives.

Incentive awareness in Examples

As OiB was initiated by farmers seeking greener alternatives, and is run by these farmers, there was no obvious problem with the awareness of existing monetary incentives in terms of subsidies etc. What is interesting to note is that, in order to communicate their agri-environmental techniques to other farmers, OiB acknowledges that “when communicating new ideas, changes need to be communicated in money: how much saved or made.” OiB understands the importance of monetary incentive, as well as spreading the awareness of it. In their presentations they send the message, “making changes will be sustainable, only if they are profitable”, but add that “profit does not always have to be money; it can be making a profit of the resources.”

There may be a lack of *incentive awareness* in the Latvian example, and in Latvia in general, as lack of monetary incentive was mentioned frequently; this needs further investigation into the agri-environmental subsidy scheme within Latvia, to ascertain if there is monetary incentive available and lack of awareness of these, or if there is a

lack of the provision of monetary incentive. There is most certainly disincentive awareness among Latvian farmers, as highlighted by J “There is also conflict with the environmental inspection people; there are so many rules and regulations that it discourages farmers from undertaking a green initiative, because the people who inspect it have so many rules.”

In the Eider example a concerted effort was made to raise awareness of available incentives by B; during visits to farmers she “provided information about subsidies which people didn’t necessarily know about, and they also did not know how to become involved in the different programs. Many farmers were open to new ideas, although this was very character dependent. This worked to raise awareness of issues existing and possible incentives.” Originally, in the area awareness of incentives available was low, but through the duration of the project there was an increase in awareness.

Incentive awareness relates both to the *inter-stakeholder group language barrier* as well as *policy and legislation problems*, with problems in awareness either due to not understanding or not receiving the information about existing incentives, or a lack of communication informing farmers about the existing incentives from the policy-makers and administrators. In the case of a communication having taken place and not been received by the recipient, it is possible that the preferred channels of communication of the different stakeholder groups of implementation-level stakeholders, and policy-makers and administrators differ.

Scientists’ Incentive to produce non-scientific information or use of common language

Information provided in non-scientific form and language is needed; however, there is no official incentive for scientists to produce work in this format, as scientific funding is publication (in scientific journal) driven.

Scientists’ Incentive to produce non-scientific information or use of common language in Examples

OiB has developed a robust relationship with researchers at the Swedish University of Agricultural Sciences; research proposals are put forward by OiB and carried out by students as an “ex-job” (job held by students associated with their dissertation or

thesis). In the presentation of the results OiB is involved in ensuring that the results are understandable to farmers. This is how they have solved the problem with incentive for scientists to produce information in a common language. OiB acts as the bridge and the translator as is indicated in the following quote: “OiB is the bridge, trying to find new solutions, new ideas which are tried on the farms, and if the idea is something that's really interesting to spread, we send it to the University or some other institution, to work on, often as an exjob for students who continue to work on it...There is no problem obtaining research, understanding research or with the practicality and relevance of research, because OiB is the instigator of the research, and part of the research process with the university. When the research is nearing its end, OiB uses their input, to influence how they formulate or present their results; to make it easy to communicate with farmers and politicians etc.”

In the Latvian example J agrees that “research provided needs to be in “common language” easier to understand, not dumbed-down, but presented better. It needs to be in a language that is not so scientific, with so much industry jargon.” This could indicate a lack of incentive for scientists to produce research in common language, although other problems receiving information are also mentioned as occurring in Latvia. The lack of a common language in Latvia may have caused further misconceptions within the farming community. Although one farmer’s opinion cannot be used to represent the entire community, J is of the opinion that “scientists like to make things overcomplicated just to show they are smart.” This comment in itself indicates the need for better communication.

In the Eider example, although B acted as a translator between the scientists and other stakeholder groups involved, she did mention that “there is a working language barrier, with scientists using Latin names for plants etc. It was important that I could “speak farmer” and “speak hunter” and also speak with researchers; I can even speak some Platt-deutsch, which was very useful at the round-tables where it was spoken by the farmers and locals. This was a door-opener.”

This incentive for scientists to produce work that is understandable to other stakeholder groups is an important contributor to *scientific cultural problems*, and is a major constituent of the scientific language barrier and therefore of *inter-stakeholder*

group language barriers. It can also be a result of *scientific cultural problems*, the more imbedded and dependent the research process is on scientific culture (e.g. grants and funds for research published), the harder it is to provide incentive for scientists to work in a language and way that is contrary to scientific culture.

Scientists' Incentive to produce practically implementable research

Practically implementable research is needed; however, there is no official incentive for scientists to produce research that is practically implementable, as scientific funding is publication driven (in scientific journals), which does not call for practically implementable research, but often for theoretically based research.

The importance of practically implementable research and problems regarding its production due to scientific culture, is covered in the introduction section entitled "information availability and relevancy", and touched on in the papers Welp et al. (2006); Janse (2006).

Scientists' Incentive to produce practically implementable research in Examples

OiB stated they had no problem with obtaining practically implementable research, due to their relationship with the Swedish University of Agricultural Sciences and their involvement in the research process from the beginning, as well as suggesting ideas to the university in the first place. In this, it is possible that the incentive for the university, researchers or students working on this research is that OiB utilises and implements their solutions and acts as the bridge.

In Latvia it seems that lack of incentive for scientists to produce implementable research is a serious problem; this may be due to lack of communication between farmers and scientists in general. This is reflected in the statements from J, highlighting the lack of communication; "the best way to solve the scientific language barrier and research applicability is to facilitate better communication with the scientists and/or the bureaucratic circle. There needs to be emphasis on communicating person to person and less emphasis on the theory. There also needs to be more demonstrations and practicals." The lack of implementable research is exemplified by the statement "Scientists should not be working entirely in labs; they need to step outside of their comfort zones; everyone should step out of their comfort zones a little." It must be noted that J may not be aware of the problems scientists

may be facing while producing research, due to a lack of communication between these stakeholder groups.

The Eider example relied heavily on B to provide implementable research; she acted as the bridge and spent personal time sourcing information that would be practically implementable for the farmers. The project involved wetlands and much wetland restoration research has taken place and various researchers at Ernst-Moritz-Arndt-Universität Greifswald and Christian-Albrechts-Universität zu Kiel provided (and still produce) research which is practically orientated. However in general B states “the topic of correct research being undertaken is a sensitive one. However, I wish that the research undertaken was more practical; the people involved are nice and open to connecting with the areas. However, sometimes the research provided was not that useful.” This highlights that the problem does occur, but that within this project an individual procurer of relevant research was present (B), and thus a lack of incentive to produce practical research is present.

Similar to the previous incentive, this is a product of and a contributor to *scientific cultural problems*; however, it is not a contributor to the scientific language barriers. It may be affected by *inter-stakeholder group language barriers*, when stakeholder groups attempt to communicate their research needs and fail to do so. As indicated by J’s statements this may give rise to *inter-stakeholder group relations problems*, borne of frustration with differing research priorities.

Incentive to collaborate and cooperate

This represents collaboration and cooperation within stakeholder groups (i.e. farmer-farmer, scientist-scientist), and concerns the existence of incentive to collaborate and communicate within stakeholder groups. It is greatly influenced by the *reputation, respect and trust* between individuals.

Incentive to collaborate and cooperate in Examples

Originally the incentive for farmers to collaborate and cooperate to form OiB, was provided by environmental awareness in the founding members, who were motivated to incorporate economically and environmentally viable techniques or products. At present, collaboration and cooperation between OiB farmers and other non-member farmers is limited, because OiB farmers are quite atypical in this

respect. OiB states that “in general farmers are wary of talking about their farms, as they believe they have something special or a good thing going on; they are especially careful about speaking about economics.” It must be noted that despite this, OiB does provide the opportunity to communicate farmer to farmer, as the farms are demonstration farms. Across this sub-division within the farmers, little agri-environmental orientated communication takes place; “There is a problem with OiB farmers spreading new ideas and techniques to other farmers, as this would be dismissed. Therefore advisory organisations deliver results to other farmers.” Thus, as highlighted by this statement, the results of the projects which may be interesting to other farmers are supplied to the various farming advisory boards and distributed this way. In OiB, although there seems to be incentive for collaboration, as techniques aim to provide both economic and environmental benefits, it appears that this is not enough for many farmers to collaborate directly with OiB. However, there is another sub-group of farmers, for which there is no barrier for collaboration and communication, and for whom these two incentives (economic and environmental) is enough; “LRF youth (Federation of Swedish Farmers youth division) are different; they talk economics and are keen to find new and innovative ways to farm; this is a role change, and they look at OiB as a role model.”

In the Latvian example J simply states, “Farmers do not talk about green projects in Latvia because there is no incentive or encouragement to even proceed with these projects; just bad PR and no support and communications issues.” This clearly highlights that in his opinion there is no incentive for collaboration.

In the Eider project, communication was facilitated with the projects in different areas through social events; collaboration and cooperation with other wetland restoration projects occurred through an interaction project (Interreg Project BIRD). The presence of B as a constant facilitator of communication helped with collaboration and cooperation between farmers in the region.

The presence of incentive for collaboration and cooperation within stakeholder groups can improve the state of *intra-stakeholder group communication* or it could be a result of a good state of *intra-stakeholder group communication*. The absence of this

kind of incentive can lead to problems in this theme, or be an indicator of problems occurring within it.

4.4.14 Youth outreach

Suggested during one interview, this is a method that has shown success in the past and is a widely implemented technique, used to facilitate a societal change or rise in awareness and knowledge. Including youth outreach or education can also result in increased media coverage (Janse & Konijnendijk 2007).

Engaging the next generation of implementation-level stakeholders (e.g. farmers) by building knowledge and awareness, as well as higher level knowledge, is important. This will result in the formation of better foundations for the future of agri-environmental initiatives. This betters the future states of all communication problems (represented by themes) and will ensure that reformation of communication processes will be taking place.

There is no specific code associated with this suggestion code.

Youth Outreach in Examples

This suggestion was made by H, who provided the example of OiB pilot farms being visited by the LRF youth, who are looking towards OiB as a role model. This outreach towards the farmers of the future may have a pronounced impact in the future, with regards to the general acceptance of agri-environmental approaches as the standard practice. H also stated that even the WWF has taken note of the LRF youth and has looked at the possibility of concentrating on and promoting them “to skip a generation (of farmers).”

4.4.15 Policy and legislation rectification

As discussed under the theme *policy and legislation problems*, even bottom-up projects are affected by problems occurring within this sector. During interviews there was consensus between the interviewees (who were farmers) in both Sweden and Latvia, that there are many problems with legislation, regulations and policy that need to be addressed, as well as problems with their implementation. Many of the communication problems occurring in the interface between policy-makers and

administrators and other stakeholder groups, are well documented and discussed in the literature. However, the farmers interviewed firmly believed that actual regulation and policy rectification needed to occur, not just a bettering of the communication processes between stakeholders.

Rectification of policy and legislation is a general term for the changes needed within this sector, in order to render policy and regulations more transparent to other stakeholder groups. The aims of policy and legislation need to be communicated with those who are required to follow or implement them (e.g. farmers). These aims need to be clearer and/or the sheer quantity of legislation needs to be lessened. The problem of "too many loopholes" within policy needs to be dealt with. This may better the state of *policy and legislation problems* and the relationship between these stakeholders and the implementation-level stakeholders. In the past it has not been a priority to make the aims and objectives of these clear to those at implementation-level, and it is possible that addressing this would result in a far more efficient and less time consuming task for both the policy-maker and administration community of stakeholders and the implementation-level stakeholders.

Policy and legislation rectification in Examples

Both H (OiB) and J (Latvia) mention the problem of too many rules and regulations, and problems with their complexity. H first states that "the amount of administration and paperwork involved in farming is too high, and with composting is even worse." He states with regards to complexity: "We have to know what we are doing, and we have to do it correctly; need clearer legislation (because) rules and regulations are written so that it takes a lawyer to know what is intended." They both also state that these rules and regulations (from the EU) are interpreted differently from country to country, with J summarizing the situation in the following quote: "There are too many rules and regulations and they are misinterpreted or interpreted according to the way the country needs them to be; they are lost in translation. The rules for a green project are two books long; they need to be the size of a pamphlet." This is reflected in the following statement from T and H: "Rules are interpreted differently from one country to the next...The freedom in interpretation of policies within the EU is the source of a lot of unfair competitiveness, as far as farm products go...Regulations need to be written so there is no room for interpretations."

As mentioned in the section discussing the theme *policy and legislation problems*, it is important to note that H is involved in an organisation promoting economic and environmentally beneficial farming measures in Sweden, and J is a farmer in Latvia who has, of his own accord, undertaken several agri-environmental changes and projects on his farm; these two settings are so far removed from each other, geographically, in social and cultural environment as well as developmentally, that this common ground and beliefs about agri-environmental legislation, regulations and policy bears mention.

4.4.16 General future suggestions

These are specific suggestions for improving the state of communications within the agri-environmental sector in the future, from the interviewees.

General suggestions for successful communication within the agri-environmental sector in the future were put forward by H from OiB and J from the Latvian example, both of which are very similar.

General future suggestions in Examples

H states “OiB believes that for the future of the agri-environmental sector, different stakeholder groups need to work together, and agriculture is part of the solution.”

J states “In the future there has to be cooperation, because this is the end of the line, no matter where you live, the environment is the issue.”

B from the Eider project takes a slightly more specific approach to the general one of “cooperation” outlined by the farmers above: “There needs to be more people who understand the practical sides of projects, who know how to make connections, know how to build bridges... It is important to have people who understand both scientific (biological) level information and farm-level information. This is the first step towards respecting each other.”

4.5 Top-down and Bottom-up projects

As mentioned in the introduction there were difficulties pertaining to the classification of agri-environmental projects as top-down or bottom-up, as experienced while selecting project examples. This is noteworthy as it highlights a need for clearer definition of the terms.

It seems, as there is no official classification system by which to define a project as bottom-up or top-down, projects with no element of bottom-up structure whatsoever, are free to use the terms bottom-up or grass-roots in their basic description, so as to take advantage of these trend-words. The author believes this misunderstanding needs to be addressed, in order to avoid further disillusionment of implementation-level stakeholders, and to allow for the development of authentic grass-roots and bottom-up initiatives.

The loose use of the term bottom-up as a trend-word in project descriptions is, the author believes, due to a poor understanding of what constitutes a bottom-up approach; if a project has aims and objectives that are culturally orientated and relevant to its geographical location, these good intentions alone cannot change the status of a project without the actual engagement and involvement of local and implementation-level stakeholders and/or the public.

The introduction of two-way communication and participation into traditionally top-down processes (such as policy and decision making), with involvement starting early in the planning process, can be viewed as a restructuring of a top-down initiative by the introduction of bottom-up elements, resulting in a more balanced decision making process. This is not to say that both public and stakeholder participation do not face challenges in attaining this level of involvement, or that the participation processes do not have their own set of problems; however, this is beyond the scope of this thesis, and for a better overview of participation see Janse & Konijnendijk (2007; Reed (2008; Rammert (2012).

This introduction of bottom-up elements into top-down initiatives, further compounds the difficulty of classifying a project's organisational structure as purely top-down or bottom-up.

In summary due to lack of clear definitions of what constitutes a bottom-up or top-down initiative and the potential for “hybrid” systems, it was found during selection of project examples for this thesis, that it is often impossible to define the structure of a project at face-value, and careful research into the driving force as well as the inner workings of a project is needed, in order to identify which organisational structure is used to carry out its aims and objectives.

An interesting example of this top-down/ bottom-up hybridization was noted in the Eider example of Weidelandschaft Eidertal. The project’s aims originated at the top; however, having made communication a project priority, these were carried out via intense participation, engagement and involvement of those at implementation-level (or at the bottom). This example of hybrid structural organisation has a top origin but is bottom driven. Those bottom-up projects with aims that are of a bottom origin, which work with policy-makers and administrators to attain these aims and rectify and refine local policy and legislation, could be classified as a hybrid system with bottom-origin that is top-driven.

4.6 Mind-set

The correct mind-set, of being open to new ideas and suggestions could also be of great importance with regards to bottom-up agri-environmental projects. OiB highlighted a problem with this in the mind-set of the type of Swedish farmers who do not have the same open-mindedness as seen in the OiB members. Similarly in the Eider example, hunters who were set in their ways and described as conservative, had a hard time adapting to the new, rigid hunting regulations implemented. This importance of mind-set is supported by Jurin et al. (2010), and the importance of acknowledging specific personality traits such as stubbornness, when developing models for ecosystem services is outlined by Sun & Müller (2013).

4.7 Types of Communication important to bottom-up Initiatives

Environmental communication, as has already been established, encompasses exchanges of all forms of environmental communication (Flor 2004). This subject is well researched; so much so, that it forms its own discipline. However, communication within bottom-up agri-environmental projects is not exclusively environmental communication, nor did this study only cover the area of environmental communication; rather it aimed to provide an overview of communication as a whole within the project examples.

The presence of communication within agri-environmental projects, which is not environmental communication, should not be overlooked.

The importance of environmental communication is clear and outlined in the introduction, as it is a major constituent of agri-environmental projects; however, during the template analysis various other types of communication came to light as also important.

Communication processes also include organisation, planning, networking and making contacts, all of which are types of communication, or involve intense communication, and do not necessarily have anything to do with the exchange of specifically environmental information. Although problems regarding the exchange of information between scientists, farmers, and policy-makers and administrators about environmental issues, agri-environmental techniques, agri-environmental policy and subsidies, can be regarded as environmental communication, the development of codes such as *respect, reputation and trust* and of the theme *inter-stakeholder group relations problems* may not be based on environmental communication alone, or in some cases, at all.

4.8 Differences in Projects and problems of projects dependent on Country

There is the possibility that communication processes and problems occurring within a project, are influenced by the cultural or socio-economic aspects of the country in which the agri-environmental project is located. The aim of this thesis was to provide an overview of the communication problems that can occur within bottom-up agri-environmental projects in the Baltic Region, and did not aim to attempt to link factors of communication within the projects to the cultural or socio-economic factors affecting the region. That being said, these should be kept in mind.

5 Conclusions

Communication in bottom-up agri-environmental projects does not just consist of environmental communication, but a myriad of communication processes that need to be carried out in order to organise, plan and carry out a project, some of which do include environmental communication.

The many facets of communication result in many areas in which problems may occur, with a poor state of one area affecting the processes underway in other areas of communication. Not all of the areas in which communication problems occur are obvious from the outset; for example, relationships between stakeholder groups (*inter-stakeholder group relations*) plays a role that is central to the success of communication within a project, and therefore in the success of the project itself.

Two-way communication is essential to the success of bottom-up agri-environmental projects, and the understanding and acceptance of communication's cyclic nature needs to be understood by stakeholders within a project, forming the foundation from which mutual understanding, trust and good relationships can be built.

As essential as communication is to these projects, the complexity of the processes underway needs to be taken into account. With both individual and group opinions, beliefs and intrinsic values coming into play in any project, each project has its own set of unique challenges which it must face, to facilitate good communication processes.

It is hoped that the holistic overview of communication within these kinds of projects that has been achieved here, can be used to raise awareness and knowledge of the complex processes that occur, in those stakeholders carrying out or planning an agri-environmental project. By making this information available in the Handbook of Communication (by the Baltic COMPACT project), to those involved in these projects, awareness of the challenges, common problems, and factors promoting successful communication can be applied in order to better communication processes, and ultimately, optimise the success of agri-environmental projects.

6 Acknowledgements

This thesis was made possible by the Deutscher Akademischer Austausch Dienst (DAAD), who through the SPACES scholarship program funded my Master of Science at Christian-Albrechts-Universität zu Kiel. I would especially like to thank Ms. Cordula Behrsing for all the organisational work she has undertaken for me in the duration of my scholarship, and for facilitating my scholarship extension.

I would like to sincerely thank Professor Dr. Uwe Rammert, whose research highlighted the need for further insight into communication processes in bottom-up agri-environmental initiatives, and without whom this study would not have been possible. He developed the foundation from which to work and incorporated me into his team, as part of the Baltic COMPASS project, providing me with a wealth of experience and experiences which I could not have imagined. For his tireless planning, organisation, input, his endless enthusiasm and motivation, and the provision of the amazing opportunities to travel and be involved in this project, I am eternally grateful. Finally I would like to thank him for being available at all times to answer questions and provide feedback, and for the essential guidance given, without which I would have been lost.

I would like to acknowledge the Baltic COMPASS project, which provided the funding with which to travel for data collection, and for the opportunity to be a part of the project, engage in discussion and meetings, and for the experience of being a part of an international project. To all the members of the Baltic COMPASS project a heartfelt thanks for all the input, discussions, feedback, literature and for the help finding projects to be used as examples within the thesis.

My thanks to Professor Dr. Hartmut Roweck for agreeing to be my second reviewer and for the insightful discussions, to Professor Dr. Florian Dünckmann for the constructive criticism and advice and to Dr. Wilhelm Windhorst for helping facilitate my scholarship extension and for all his support.

My heartfelt thanks to Håkan and Teri Lee Eriksson and Beate Lezius for making the time for me to interview them and for their openness and honesty; Andreas

Ridderstedt for the support and motivation, as well for driving me the long distances through Sweden to get me to meetings and interviews; Sina Danehl, Sami Manandhar, Kate Gardner, Amy Jewett, Annika Stark, Sofi Sundin, Emma Svensson and Moritz Padlat for their support, discussions, proofreading and feedback. My heartfelt gratitude to Anna Wright for our discussions concerning the various methodologies of qualitative analysis.

I am grateful to Mikaila and Sharon Jones for their help with ensuring the clarity of the content with grammatical input.

Finally I would like to thank Professor Dr. Martin Villet, for always being available to provide motivation, support and a fresh perspective, as well as exorbitant amounts of literature.

7 References

- Bachmann, R. & Inkpen, A., 2011. Understanding Institutional-based Trust Building Processes in Inter-organizational Relationships Understanding Institutional-based Trust Building Processes in Inter-organizational Relationships. *Organization Studies*, 32(2).
- Benn, S., Dunphy, D. & Martin, A., 2009. Governance of environmental risk: new approaches to managing stakeholder involvement. *Journal of environmental management*, 90(4), pp.1567–75. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/18768249> [Accessed July 19, 2013].
- Castella, J.-C. et al., 2007. Combining top-down and bottom-up modelling approaches of land use/cover change to support public policies: Application to sustainable management of natural resources in northern Vietnam. *Land Use Policy*, 24(3), pp.531–545. Available at: <http://linkinghub.elsevier.com/retrieve/pii/S0264837706000640> [Accessed May 22, 2013].
- Davies, A.L. & White, R.M., 2012. Collaboration in natural resource governance: reconciling stakeholder expectations in deer management in Scotland. *Journal of environmental management*, 112, pp.160–9. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/22898708> [Accessed September 19, 2013].
- Dresing, T., Pehl, T. & Schmieder, C., 2012. *Manual (on) Transcription. Transcriptio Conventions, Software Guides and Practical Hints for Qualitative Researchers* 2nd Englis., Marburg. Available at: <http://www.audiotranskription.de/english/transcription-practicalguide.htm>.
- Flor, A.G., 2004. Unit I Principles. In *Environmental Communication : Principles , Approaches and Strategies of Communication Applied to Environmental Management*. Quezon City: UP Open University, pp. 1–30.
- Garcia-Lopez, G.A., 2013. Scaling up from the grassroots and the top down : the impacts of multi-level governance on community forestry in Durango , Mexico 2 . The impacts of multi-level arrangements : a review of the evidence. , 7(2), pp.406–431.
- Gelders, D. & Ihlen, Ø., 2010. Minding the gap: Applying a service marketing model into government policy communications. *Government Information Quarterly*, 27(1), pp.34–40. Available at: <http://linkinghub.elsevier.com/retrieve/pii/S0740624X09001117> [Accessed July 30, 2013].
- Guldin, R.W., 2003. Forest science and forest policy in the Americas: building bridges to a sustainable future. *Forest Policy and Economics*, 5(4), pp.329–337. Available

at: <http://linkinghub.elsevier.com/retrieve/pii/S138993410300042X> [Accessed August 3, 2013].

Hahn, T. et al., 2006. Trust-building, Knowledge Generation and Organizational Innovations: The Role of a Bridging Organization for Adaptive Comanagement of a Wetland Landscape around Kristianstad, Sweden. *Human Ecology*, 34(4), pp.573–592. Available at: <http://link.springer.com/10.1007/s10745-006-9035-z> [Accessed September 19, 2013].

Harris, F. & Lyon, F., 2013. Transdisciplinary environmental research: Building trust across professional cultures. *Environmental Science & Policy*, 31, pp.109–119. Available at: <http://linkinghub.elsevier.com/retrieve/pii/S1462901113000336> [Accessed September 19, 2013].

Janse, G., 2008. Communication between forest scientists and forest policy-makers in Europe — A survey on both sides of the science/policy interface. *Forest Policy and Economics*, 10(3), pp.183–194. Available at: <http://linkinghub.elsevier.com/retrieve/pii/S1389934107000676> [Accessed May 27, 2013].

Janse, G., 2006. Information search behaviour of European forest policy decision-makers. *Forest Policy and Economics*, 8(6), pp.579–592. Available at: <http://linkinghub.elsevier.com/retrieve/pii/S138993410400125X> [Accessed June 30, 2013].

Janse, G. & Konijnendijk, C.C., 2007. Communication between science, policy and citizens in public participation in urban forestry—Experiences from the Neighbourwoods project. *Urban Forestry & Urban Greening*, 6(1), pp.23–40. Available at: <http://linkinghub.elsevier.com/retrieve/pii/S1618866706000756> [Accessed July 8, 2013].

Jurin, R., Roush, D. & Danter, J., 2010. *Environmental Communication Second*, Dordrecht Heidelberg London New York.

King, N., 1998. Template Analysis. In G. Symon & C. Cassell, eds. *Qualitative Methods and Analysis in Organizational Research: A practical guide*. London: SAGE Publications, pp. 118–134.

McNeil, T.C., Rousseau, F.R. & Hildebrand, L.P., 2006. Community-based environmental management in Atlantic Canada: the impacts and spheres of influence of the Atlantic Coastal Action Program. *Environmental monitoring and assessment*, 113(1-3), pp.367–83. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/16520873> [Accessed September 19, 2013].

Merriam-Webster Dictionary 2013. Available from: <http://www.merriam-webster.com/dictionary>. [24 November 2013].

- Ter Mors, E. et al., 2010. Effective communication about complex environmental issues: Perceived quality of information about carbon dioxide capture and storage (CCS) depends on stakeholder collaboration. *Journal of Environmental Psychology*, 30(4), pp.347–357. Available at: <http://linkinghub.elsevier.com/retrieve/pii/S0272494410000575> [Accessed July 30, 2013].
- Odling i Balans, 2013. Available from: <<http://www.odlingibalans.com/>>. [10 December 2013].
- Oxford Dictionaries 2013. Available from: <<http://www.oxforddictionaries.com/definition/english> >. [24 November 2013].
- Prager, K. & Freese, J., 2009. Stakeholder involvement in agri-environmental policy making--learning from a local- and a state-level approach in Germany. *Journal of environmental management*, 90(2), pp.1154–67. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/18632199> [Accessed May 27, 2013].
- Prager, K. & Vanclay, F., 2010. Landcare in Australia and Germany: comparing structures and policies for community engagement in natural resource management. *Ecological Management & Restoration*, 11(3), pp.187–193. Available at: <http://doi.wiley.com/10.1111/j.1442-8903.2010.00548.x> [Accessed September 19, 2013].
- Rammert, U., 2012. *New approaches to project partner communication for project development and the creation of common Elements of a communication concept for Baltic Compass - Schleswig-Holstein report*,
- Reed, M.S., 2008. Stakeholder participation for environmental management: A literature review. *Biological Conservation*, 141(10), pp.2417–2431. Available at: <http://linkinghub.elsevier.com/retrieve/pii/S0006320708002693> [Accessed May 22, 2013].
- Reed, M.S. et al., 2009. Who's in and why? A typology of stakeholder analysis methods for natural resource management. *Journal of environmental management*, 90(5), pp.1933–49. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/19231064> [Accessed May 23, 2013].
- Robinson, G.U.Y.M. et al., 2006. Canada's environmental farm plans: transatlantic perspectives on agri-environmental schemes. , 172(3), pp.206–218.
- Sabatier, P. a., 1986. Top-Down and Bottom-Up Approaches to Implementation Research: a Critical Analysis and Suggested Synthesis. *Journal of Public Policy*, 6(01), pp.21–48. Available at: http://www.journals.cambridge.org/abstract_S0143814X00003846 [Accessed September 16, 2013].

Sun, Z. & Müller, D., 2013. A framework for modeling payments for ecosystem services with agent-based models, Bayesian belief networks and opinion dynamics models. *Environmental Modelling & Software*, 45, pp.15–28. Available at: <http://linkinghub.elsevier.com/retrieve/pii/S1364815212001892> [Accessed June 17, 2013].

The American Heritage Dictionary of the English Language 2013. Available from: <http://www.ahdictionary.com> >. [24 November 2013].

Uetake, T. et al., 2013. *Providing Agri-environmental Public Goods through Collective Action*, OECD Publishing. Available at: http://www.oecd-ilibrary.org/agriculture-and-food/providing-agri-environmental-public-goods-through-collective-action_9789264197213-en.

Welp, M. et al., 2006. Science-based stakeholder dialogues: Theories and tools. *Global Environmental Change*, 16(2), pp.170–181. Available at: <http://linkinghub.elsevier.com/retrieve/pii/S0959378005000804> [Accessed May 26, 2013].

Wirth, S. et al., 2013. Informal institutions matter: Professional culture and the development of biogas technology. *Environmental Innovation and Societal Transitions*, 8, pp.20–41. Available at: <http://linkinghub.elsevier.com/retrieve/pii/S2210422413000439> [Accessed December 27, 2013].

WWF, 2010. *WWF Baltic Sea Farmer of the Year Award 2010*,

Declaration

Herewith, I declare that this thesis has been completed independently and unaided and that no other sources other than the ones given here have been used.

The submitted written version of this work is the same as the one electronically saved and submitted on CD.

Furthermore, I declare that this work has never been submitted at any other time and anywhere else as a final thesis.

Krsitianstad, Skåne, Sweden on the 21st of February 2014

Sara Sharon Jones